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HARMONY

BY
MAX LOEWENGARD



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ADDITIONAL EXERCISES TO MAX LOEWENGARD "HARMONY"

BERLIN 1905



ALBERT STAHL,

POTSDAMERSTRASSE 39.

150

HARMONY

BY

MAX LOEWENGARD



TRANSLATED FROM THE GERMAN

BY

HELEN M. PEACOCK

BERLIN 1905



ALBERT STAHL,

POTSDAMERSTRASSE 39.

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1905

PREFACE.

"Wagner, by the frequent use of augmented chords, has called our attention particularly to this harmony as an independent chord like the major and minor triad. According to Wagner's way of thinking this combination of tone belongs to the original chords, but we theorists have given it a home as it were on the third degree of the minor scale." (Cyrill Kistler, *Harmonielehre*, Kissingen, 1898.)

With this Cyrill Kistler utters a principle which has become the standard for all Theory of Music: That which occurs often must come under a rule.

This "Harmony" is written on a principle contrary to that statement.

That in the modern music which can no longer come under the old rubric and which does not conform to the old rules cannot be reached by rearranging the old rubric and adding new exceptions to old rules. The new in modern music has not been invented from one thing or another, but it has developed logically from that which existed.

The old rules must be remodeled—not by making every separate case a starting point for a rule—but by making the rule from the first so that these cases are but a free development of the possibilities justified by the rule, and are not exceptions. Extend the rule—not by adding, but by freeing it from exceptions.

The new edition of this "Harmony" introduces many simplifications. Simplifications resulting from the endeavour to do justice to the above mentioned principle.

Berlin, 1905.

MAX LOEWENGARD.

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INTRODUCTION.

Harmony is the grammar of tone language.

The knowledge of Harmony is just as indispensable to anyone studying music, as the knowledge of grammar is to those who wish to gain more than a superficial understanding of a language.

Since the exercises in Harmony (from very simple pedagogical grounds) not only can be resolved into their elements, but, for the most part, must be a combination of separate elements, the student can easily see in them the preparation for composing; they are such indeed in no other sense than are the orthographical and grammatical exercises preparatory to writing poetry—not less elementary, not less indispensable.

All chords may be divided into two groups:—

1. Triad, or chord with three tones.
 2. Sept chord, or chord with four tones.
-

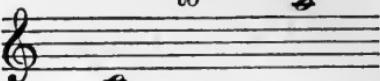
PART I.

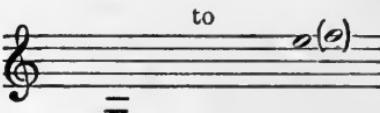
THE TRIAD.

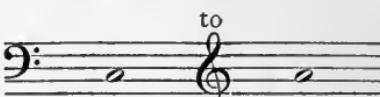
Every triad consists of a fundamental tone, its third and its fifth. Every tone of the scale may be used as the fundamental of such a triad, thus a triad can be formed on any tone of the scale by adding its third and its fifth. If one uses only the tones which belong to a certain scale he will find that part of the triads have a major third and a perfect fifth, while others have a minor third and a perfect fifth. The triad on the VII degree of any scale, as well as on the II degree of the minor scale, always has a minor third and a diminished fifth. The difference between these triads does not concern us at present.

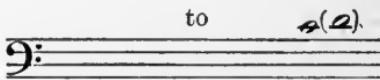
THE TRIAD.

The most complete means of musical presentation is the four voiced chorus which, because of this capacity, has shown itself the best basis for all exercises in Harmony and Counterpoint. It is also in a measure the foundation for the following exercises:

SOPRANO, range: 

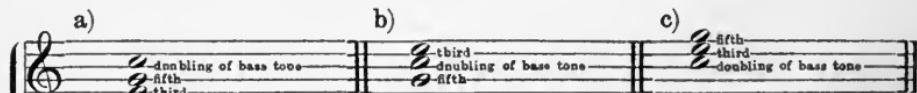
ALTO, range: 

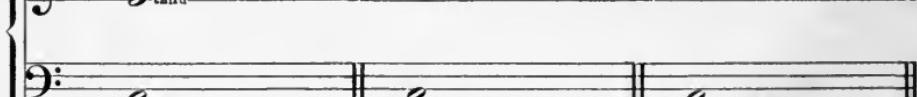
TENOR, range: 

BASS, range: 

To present a triad with four voices it is necessary to double one tone. At present the bass tone, or fundamental tone of the triad, is doubled. The different order in which the notes of a triad appear over the same bass tone (fundamental tone) does not change the triad.

For instance: the triad over the bass tone *C* is formed just as soon as its third *E* and its fifth *G*, plus the doubling of the bass tone *C* are placed above it, whether the order of the tones be as at a), b) or c).

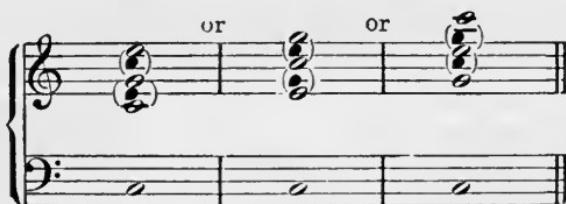
a) 

b) 

c) 

At a) as well as at b) and c) the Alto always takes the tone which is nearest the Tenor tone in the triad, just as the Soprano takes the tone which is nearest the Alto tone in the triad.

At present we will not concern ourselves with the order which leaves greater space between each tone of the triad, although it may be done in the following manner.

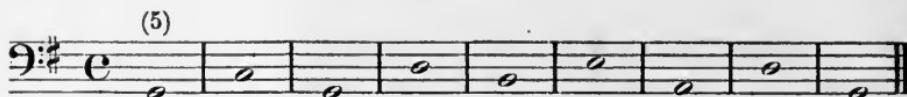


EXERCISE: Form a triad over each of the following bass tones and make it four voiced by doubling the bass tone. The figure (3) over a bass tone means that the third of the triad must be in the Soprano; the figures (5) and (8) mean that the fifth of the triad and the 8 (octave) of the triad must be in the Soprano.

If in connecting different triads a common tone is found, it should be kept in the same voice, thus making a natural means of connection.

Here the triads *G, B, D*, and *C, E, G* are musically and logically connected by the Alto retaining the tone *G*, which is common to both triads.

EXERCISE: Make triads over each of the following bass tones and connect them by keeping the common tone in the same voice.



SOLUTION: The triad on *G* is *G, B, D* and the figure (5) shows that the fifth, or *D*, must be in the Soprano—from this *B* is in the Alto and *G* in the Tenor.

The next triad on *C* is *C, E, G*, and has with the preceding triad the tone *G* as common tone. As *G* was in the Tenor in the preceding triad it is retained in the Tenor thus forming a natural connecting link between the two triads. The Alto goes from *B* to *C* (as in the triad *C, E, G* with *G* in the Tenor *C* is the nearest note over the *G*). The *D* in the Soprano goes to *E* (as in the triad *C, E, G*, the *E* is the nearest tone over the *C* in the Alto).

Next the triad on *G* is *G, B, D*. The common tone with the preceding triad is *G*. As this *G* was in the Tenor it must remain there, while the Alto goes from *C* to *B* and the Soprano from *E* to *D*.

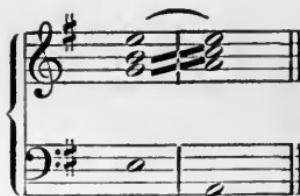
The following triad (on *D*) is *D*, *F* sharp, *A*. The common tone with the preceding triad is *D*. As *D* was in the Soprano it is retained in that voice. The Alto goes from *B* to *A*, the Tenor from *G* to *F* sharp.

The following triad (on *B*) is *B*, *D*, *F* sharp. There are two common tones with the preceding triad. They are *D*, and *F* sharp. The *D* in the Soprano remains in the Soprano and the *F* sharp in the Tenor remains in the Tenor. The Alto goes from *A* to *B*.

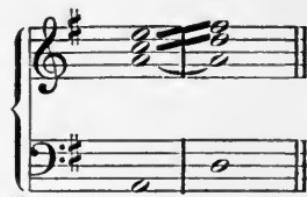
The following triad (on *E*) is *E*, *G*, *B*. The common tone with the preceding triad is *B*. *B* was in the Alto so it remains in that voice. The Tenor goes from *F* sharp to *G*, the Soprano from *D* to *E*.

The following triad (on *A*) is *A*, *C*, *E*. The common tone with the preceding triad is *E*. *E* was in the Soprano therefore it remains in the Soprano. The Alto goes from *B* to *C*, the Tenor from *G* to *A*.

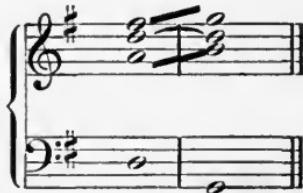
THE TRIAD.



The following triad (on *D*) is *D, F* sharp, *A*. The common tone with the preceding triad is *A*. *A* was in the Tenor so it remains in the Tenor. The Alto goes from *C* to *D*, the Soprano from *E* to *F* sharp.



The following triad (on *G*) is *G, B, D*. The common tone with the preceding triad is *D*. *D* was in the Alto, so it remains in the Alto. The Soprano goes from *F* sharp to *G*, the tenor from *A* to *B*.



The complete exercise is:

After the above scheme work out the following exercises.

(3)

(5)

(8)

(3)

(5)

(8)

(5)

(5)

In case there is no common tone between two triads following one another use contrary motion to the bass.

There are three different directions of movement:

1. Direct, or parallel motion.
2. Oblique motion.
3. Contrary motion.

1. Direct, or parallel motion, results if two or more voices move in the same direction (either up or down).

For example: at a) the Soprano, Alto, Tenor, and Bass all move in parallel motion, while at b) only the Soprano and Tenor, at c) the Soprano, Tenor and Bass.

THE TRIAD.

The image shows three staves of music. Staff a) has Soprano notes (two eighth notes) and Alto notes (two eighth notes). Staff b) has Soprano notes (one eighth note, one sixteenth note) and Alto notes (one eighth note, one sixteenth note). Staff c) has Soprano notes (one eighth note, one sixteenth note) and Alto notes (one eighth note, one sixteenth note).

2. Oblique motion results if one or more voices progress either up or down while one voice remains on the same note. Thus at b) the Soprano and Tenor move in oblique motion downwards, while the Alto retains its note and the Bass moves upwards in oblique motion. At c) all voices move down in oblique motion to the tied note in the Alto.

3. Contrary motion*) results if in two voices the one progresses upwards and the other down. Thus at a) there is no contrary motion; at b) the Soprano as well as the Tenor move in contrary motion to the Bass, while at c) there is no contrary motion.

EXERCISE:

(8)

A single staff in bass clef (F) starts with a bass note 'C'. This is followed by eleven eighth notes, each on a different line or space of the staff, indicating an octave leap.

SOLUTION: The triad on *C* is *C, E, G*. The figure (8) over the bass tone, *C*, indicates that the octave must be in the Soprano.

A staff in soprano clef (G) shows an eighth note 'G'. Below it, a staff in bass clef (F) shows an eighth note 'C'. A bracket above the notes is labeled '(8)'.

The following triad (on *E*) is *E, G, B*.

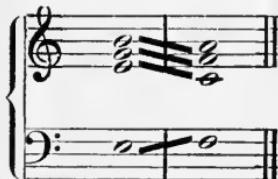
Has *E, G, B*, one or more common tones with the preceding triad? Yes, two common tones *E* and *G*. Since *E*

*) Not only in the following exercises, but in advanced work contrary motion is the most desirable of all directions of movement for the voices because it brings out the independence of the separate voices, and in many cases it is this independence of the separate voices which helps mark good music from bad.

was in the Tenor it must remain in the Tenor of the new triad, *G* was in the Alto before hence it must remain in the Alto of the new triad. The Soprano goes from *C* to *B*.



The following triad (on *F*) is *F, A, C*. Has *F, A, C* any tone in common with the preceding triad? No, therefore use contrary motion to the Bass, which in this case ascends. The upper voices (Soprano, Alto and Tenor) descend to the tones of the new triad. Thus the Soprano does not go up to *C*, but down to *A*, the Alto down to *F* and the Tenor down to *C*.



The following triad (on *D*) is *D, F, A*. Has *D, F, A* any common tone with the preceding triad?

Yes, it has two common tones *F*, and *A*.

Since the *F* was in the Alto before it must remain in the Alto of the new triad. *A*, which was in the Soprano before, remains in the Soprano of the new triad. The Tenor goes from *C* to *D*.

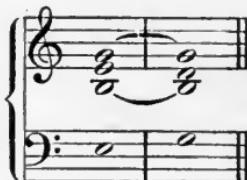


The following triad (on *E*) is *E, G, B*. Has *E, G, B* one or more common tones with the preceding triad? No; therefore use contrary motion to the Bass, which ascends in this case. The upper voices (Soprano, Alto and Tenor) descend to

the tones of the new triad. The Soprano *A* does not go up to *B*, but down to *G*. The Alto descends to *E*, and the Tenor to *B*.



The following triad (on *G*) is *G, B, D*. Has *G, B, D* one or more common tones with the preceding triad? Yes, *G* and *B* are common tones. Since *G* was in the Soprano it must remain in the Soprano of the new triad. *B*, which was in the Tenor, must remain in the Tenor of the new triad. The Alto goes from *E* to *D*.



The following triad (on *A*) is *A, C, E*. Has *A, C, E* one or more common tones with the preceding triad? No; therefore use contrary motion to the Bass, which ascends in this case. The upper voices descend to the tones of the new triad. The Soprano *G* goes down to *E* instead of up to *A*. The Alto descends to *C*, and the Tenor to *A*.

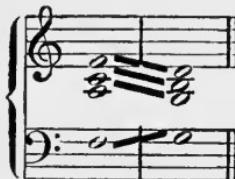


The following triad (on *F*) is *F, A, C*. Has *F, A, C* one or more common tones with the preceding triad? Yes; two, *A* and *C*.

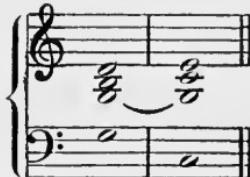
Since the *A* was in the Tenor it must remain in the Tenor of the new triad. *C*, which was in the Alto, must remain in the Alto of the new triad. The Soprano goes from *E* to *F*.



The following triad (on *G*) is *G, B, D*. Has *G, B, D* any common tone with the preceding triad? No; therefore use contrary motion to the Bass, which ascends in this case. The upper voices descend to the tones of the new triad. The Soprano *F* goes down to *D* instead of up to *G*. The Alto descends to *B* and the Tenor to *G*.



The following triad (on *C*) is *C, E, G*. Has *C, E, G* any common tone with the preceding triad? Yes; the tone *G*. Since *G* was in the Tenor it must remain in the Tenor of the new triad. The Alto goes from *B* to *C* and the Soprano from *D* to *E*.



The solution of the whole exercise is as follows—

Work out the following exercises after the above scheme.

(3)

C

(8)

e

(8)

e

(5)

c

(3)

e

(8)

e

(5)

c

(3)

e

(8)

e

(8)

e

THE MINOR KEY.

All the preceding exercises have been in the major keys because in the minor scale it is often necessary to use a foreign leading tone instead of the leading tone common to the scale.

The seventh tone of the minor scale must be raised a half tone only when it goes up to the fundamental, thus acting as leading tone.

It is much easier for the pupil to consider the seventh tone, not raised, as the leading tone common to the scale. For example in *C* minor the *B* is in the signature (the signature always shows the tones common to the scale) and it is only changed to *B* natural when it is used as the leading tone, that is when it has a strong natural inclination to ascend a half tone to the tonic, or keynote.

This conception does not contradict in the least what the pupil learned in his instrumental work as the melodic minor scale. In the melodic *C* minor scale it would be, ascending *a*, *b*, *c* and descending *c*, *b* ♯ and *a* ♯. The *a* ♯ ascending was changed to *a* in order to avoid the augmented second between *a* ♯ and *b*.

The so called "Harmonic Minor Scale" with its descending *c*, *b*, *a* ♯, would be considered illogical, as indeed it is. Melodious passages like the following do not contradict it:



Such instances occur often and are explained by considering the *b* as belonging to *c*, and the *a* ♯ as belonging to *g*.



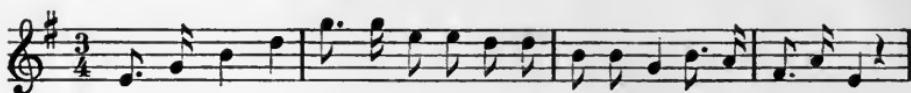
The use of the raised seventh in a minor scale has the same right to be called a melodious balancing as has the raised sixth, which has been raised to avoid the interval of an augmented second. The raised sixth tone might also be thought of as belonging to the minor scale just as the raised seventh tone does since it is used so often.

The major seventh *B* is separated from the octave *C*, the tonic, by the smallest interval of the scale, a half tone. It is on account of this nearness to the tonic that it is easily sung.

B seems to be a kind of suspension before *C*, and in such a case the hearer thinks of it only as a preparatory step to *C*. Therefore it is said that *B* leads to *C*. *B* is the leading tone for the tonic *C*. In this way the leading tone, which has the weakest relation to the tonic, is raised to one of particular importance. This condition has become more important in modern music and has brought about the preference for the major seventh in ascending to the tonic, even in cases where the major seventh does not originally belong. This change began in Europe at the period of polyphonic music, however, it was not restricted to polyphonic music as it was also used in the one voiced *Cantus Firmus* of the Roman church. In 1322 it was strongly censured in an edict of Pope John XXII and on account of this the sign for the raised seventh in the notes was usually omitted, although the singers sang it as before. (From Helmholtz, "Lehre von den Tonempfindungen".)

The introduction of such an ascending leading tone from the European music threatened to influence the folk melodies of distant nations in no improving manner.

The following is rather an interesting case of one of the favorite Swedish national melodies which begins thus:



The Swedes of the modern times sing *D* instead of *D*[#] in the first measure and thus distort the old sacred relic.

In an Estonian church the organ might sound *F* sharp ever so loudly, but the congregation would sing *F* with the greatest surety. The choral, "Höchster Priester, der Du Dich", has a similar instance in the third stanza:



A short time ago at a concert given by the Estonian singers in the Marienkirche at Dorpat heard *D* sharp loud and clear in the accompaniment while the chorus sang *D* natural just as loud and clear. (From Oettingen's "Harmoniesystem in dualer Entwicklung". Karow, Dorpat 1866).

The historical conclusion is that the minor scale originally had no leading tone, but introduced it later to form the authentic cadence.

The physical reason for the use of the leading tone in the minor is grounded on the nearness of the leading tone to the tonic, not on any relationship to the key.

The musical practice uses the leading tone only when it really leads up to the tonic, and raises the seventh only when it has all qualities of the leading tone.

Then why against all historical knowledge, against all physical logic, and against all musical practice mark a tone as a leading tone common to the scale when it really is not.

Many simplifications result from considering the seventh degree (not raised) in the minor scale as the leading tone common to the scale, in this way a whole row of otherwise insolvable contradictions have been explained. More will be said about this under Sept-chords and Altered chords.

Where it is necessary to raise the seventh in the following exercises (that is, where it concerns the use of the leading tone) it will be indicated.



For example:

means that over *E* the triad with

the third raised must be formed; thus:



Where such signs do not occur the leading tone common to the scale (that is, the seventh tone of the scale not raised) is used. For example:

(8)

3

At a) it does not require the leading tone, so, as it is in a minor, *G* the leading tone common to the scale, is used. At b) it concerns the use of the leading tone so, instead of *G*, the leading tone common to the scale, the foreign leading tone *G* sharp is used.

The seventh tone even in the major scale does not always act as a leading tone—at any rate only when it is fundamental or third as in the triads on the V and VII degree, but never when it is the fifth as in the triad on the III degree.

No matter what meaning a tone may have in relation to the key, as soon as it becomes the fifth of another tone (used as the fundamental) it loses this meaning and as the fifth becomes dependant on the fundamental.

In the minor key there is a distinct means of knowing when the VII degree is used as the leading tone and when it is used as the leading tone belonging to the scale.

In the triad on the VII degree it is always used as the leading tone, nearly always in the triad on the V degree, but never in the triad on the III degree. The following:



is not a triad on the III degree of a minor, but, with the help of the foreign leading tone, it is an altered triad. (Attention will be given altered triads in another chapter.) The triad on the III degree of the *a* minor scale is *C, E, G* and can no more be considered as belonging to *C* major than can the triad on the III degree of *C* major, *E, G, B* be said to belong to *e* minor.

The seventh degree, when used as a leading tone, should not be doubled.

All tones with a natural tendency of progression which their harmonic relation suggests should not be doubled.

THE INVERSION OF A TRIAD.

The different order of the three upper voices does not change the character of a triad as long as the Bass takes the fundamental tone. But as soon as the Bass takes any other than the fundamental tone of the triad it brings about what is called an *inversion of a triad*.

Every triad has two inversions:

1. The inversion in which the Bass takes the third of the triad.
2. The inversion in which the fifth of the triad is placed in the Bass.

The following numerals result from measuring the distance the tones of the triad are from the new Bass tone:

$\frac{6}{3}$ for the first, $\frac{4}{4}$ for the second inversion.

Fundamental-position I. Inversion. II. Inversion.

5 6 6
3 3 4

The exercise, to form the $\frac{6}{3}$ chord from a given Bass tone, is easy to work out if the third and the sixth above the given Bass tone be found. In the same way to form a $\frac{6}{4}$ chord the fourth and sixth above the given Bass tone must be found.

In working out the exercises always think of the triad in fundamental position first.

EXERCISE.

a) $\frac{6}{3}$ b) $\frac{6}{4}$

SOLUTION: a) The $\frac{6}{3}$ chord on *E* must be formed.

Every $\frac{6}{3}$ chord is the inversion in which the third of the triad is in the Bass. *E* is the third from *C* — therefore the inversion of the triad on *C* (*C, E, G*) is wanted. In other words, form the triad on *C* (*C, E, G*) though not in fundamental position put the third of the triad in the Bass, thus making it a sixth chord.

a) or: or:

$\frac{6}{3}$ $\frac{6}{3}$ $\frac{6}{3}$

b) The four-six chord on *G* must be formed.

Every four-six chord is the inversion of a triad which puts the fifth in the Bass. *G* is the fifth from *C*, so this concerns the inversion of the triad on *C* — (*C, E, G*). Therefore the fifth instead of the fundamental tone will be in the Bass, thus making it a four-six chord.

THE INVERSION OF A TRIAD.

b) or: or:

NOTE. In measuring from the Bass tone up the first inversion is indicated by 6 instead of by $\frac{5}{3}$ — as this is sufficient to show the distance from the fundamental and third (the real intervals in the fundamental position of the triad).

To make the inversion of a triad four voiced the Bass tone is doubled just as in the fundamental position of the triad.

The connection of triad inversions with one another, or with triads in fundamental position, is made in the same way as before explained.

Common tones are always retained in the same voice, where there are no common tones use contrary motion with the Bass.

EXERCISE.

SOLUTION. The triad on *C* is *C, E, G* — the third must be in the Soprano.

The following sixth chord on *F* is the inversion of the triad on *D* — *D, F, A* (*F* is the third of this triad). The sixth chord of *D, F, A* must be formed and connected with the preceding triad.

There are no common tones so contrary motion with the (from *C* to *F*) ascending Bass must be used. The *E* in the Soprano goes to *D*, the *C* in the Alto to *A* and the *G* in the Tenor to *F*.

The following four-six chord on *G* is the inversion of the triad in which *G* is the fifth. *G* is the fifth of the triad on *C* — *C, E, G*.

The four-six chord of the triad *C, E, G*, must be formed and connected with the preceding triad. There are no common tones so contrary motion is used. The Soprano goes from *D* to *C*, the Alto from *A* to *G*, the Tenor from *F* to *E*.



The whole solution is thus:

EXERCISES:

The musical score consists of five horizontal staves, each representing a different voice part. The voices are stacked vertically from top to bottom: Soprano (highest), Alto, Tenor, and Bass (lowest). The music is written in common time. The first staff begins with a C major chord in root position. The second staff shows an inversion of the C major chord. The third staff begins with a G major chord in inverted form. The fourth staff shows another inversion of the C major chord. The fifth staff concludes with a final inversion of the C major chord. Roman numerals I, II, III, and IV are placed above certain notes to indicate harmonic functions. The bass line is particularly prominent, providing the harmonic foundation for the four voices.

The preceding exercises have been worked out in four voices by doubling the Bass tone.

In the sixth chord it is better not to double the Bass tone, which is the third of the triad, but one of the other two tones, either the fundamental or the fifth of the triad.

The Bass tone in the sixth chord is the third of the triad. The third of a triad is not suited for doubling because it is the interval which distinguishes the major from the minor and as such it is specially perceptible.

If one should enter a concert hall and hear a triad played fortissimo without having heard what preceded it, the first impression, even to those with acute musical hearing, would be, not that it was of a certain pitch, or consisted of the tones *A, C, E* or *X, Y, Z*—but that it was either major or minor. One distinguishes the major from the minor best by the third. This makes the third so perceptible that it would be entirely too obtrusive if it were doubled.

EXERCISE.

A single staff of musical notation for the Bass voice. The staff uses a bass clef. The notes are: (3), 6, 6, 6, 4, 3. This represents a bass line consisting of a third, followed by two inversions of a triad, and then a final inversion.

SOLUTION. The triad on *C* is *C, E, G*. The figure (3) indicates that the third from *C*, that is *E*, must be in the Soprano. Thus Soprano *E*, Alto *C*, Tenor *G*. The sixth chord on *E* is the inversion of the triad on *C* — *C, E, G*.

Common tones? Yes, *C*, *E* and *G*. Since the *G* was in the Tenor it must remain in the Tenor of the new triad. *C* which was in the Alto is retained in the Alto of the new triad. *E* was in the Soprano and it would be retained in the Soprano of the new triad were it not the Bass tone of the sixth chord, the doubling of which should be avoided. Therefore in avoiding *E* the Soprano goes to *C* or *G*.

A musical score for two voices. The top voice (Soprano) has a treble clef and a 'C' note. The bottom voice (Bass) has a bass clef and a 'C' note. A brace groups the two voices, with the number '(3)' above the brace and the number '6' below it. Above the top voice, there is a vertical ellipsis (...), followed by a circled 'G' note and another vertical ellipsis (...).

It makes no difference which of the tones (*G* or *C*) is doubled instead of the *E*, since the distance to either one of them is the same. Otherwise "The nearest way is the best", might be taken as a rule. In this case *C* is chosen as it makes contrary motion with the Bass.

A musical score for two voices. The top voice (Soprano) has a treble clef and a 'G' note. The bottom voice (Bass) has a bass clef and a 'C' note. A brace groups the two voices, with the number '(3)' above the brace and the number '6' below it. Above the top voice, there is a vertical ellipsis (...), followed by a circled 'G' note and another vertical ellipsis (...).

The following triad (on *D*) is *D*, *F*, *A*. Common tones? No, therefore contrary motion. The Tenor *G* goes up to *A*, *C* in the Alto to *D*, and *C* in the Soprano to *F*.

The beginner must not allow himself to be deceived by using contrary motion in the Soprano, the *C* going up to *F*, and think that he has introduced real contrary motion while the Alto and Tenor progress in parallel motion with the Bass and only the *C* of the Soprano, which is really only a substitute for the avoided *E*, goes in contrary motion with the Bass.

Thus:

A musical score for three voices. The top voice (Soprano) has a treble clef and a 'G' note. The middle voice (Alto) has a bass clef and a 'D' note. The bottom voice (Bass) has a bass clef and a 'D' note. A brace groups the middle and bottom voices, with the words 'but not' written above the brace. Above the top voice, there is a vertical ellipsis (...), followed by a circled 'G' note and another vertical ellipsis (...).

The following sixth chord (on *F*) is the inversion of the triad on *D—D, F, A*. Common tones with the preceding triad *D, F* and *A*. Since the *A* was in the Tenor it remains in the Tenor of the new triad. *D* in the Alto is retained in the Alto of the new triad. The *F* in the Soprano would also be retained if it were not the Bass tone of the sixth chord, the doubling of which should be avoided. The Soprano *F* therefore is led to *D* or to *A*.

Complete solution:

The principle on which the doubling of the Bass tone in a sixth chord should be avoided is this; the Bass tone is the third of the triad and as such, because it distinguishes the major from the minor, it is specially noticeable.

In a diminished triad the third does not distinguish the major from the minor, thus it is not so noticeable and therefore can be doubled.

In the sixth chords which are inversions of a diminished triad the Bass tone, an unimportant third in this case, may be doubled. In fact in such sixth chords it is better to double the Bass tone (the third) than the fundamental or fifth, as in the diminished triad (since it stands in relation to the diminished fifth) it has lost its distinguishing characteristic and is no longer so noticeable. In the diminished triad on the VII. degree the fundamental is the leading tone, therefore it should not be doubled. (See p. 16.)

EXERCISES:

The musical score consists of eight staves of bassoon music. The first four staves are in common time, while the last four are in common time. Key signatures include B-flat major, E major, C major, E major, B-flat major, E major, and A major. Measures are numbered 1 through 32. Above the notes, Roman numerals indicate harmonic progressions. In the first staff, measures 1-4, numerals 6, 4, 5, 6, 6, 4, 6, 4, 5, 6 are shown, with handwritten II, I, IV, I above the 6s. In the second staff, measures 5-8, numerals 6, 6, 4, 5, 6, 4, 5, 6 are shown, with handwritten II, I, V, I, III, I above the 6s. In the third staff, measures 9-12, numerals 6, 6, 4, 5, 6, 6, 6, 6 are shown, with handwritten II, V, II, I above the 6s. In the fourth staff, measures 13-16, numerals 6, 6, 6, 6, 6, 6, 6, 6 are shown, with handwritten II, IV, I above the 6s. In the fifth staff, measures 17-20, numerals 6, 6, 6, 6, 6, 6, 6, 6 are shown, with handwritten II, IV, I above the 6s. In the sixth staff, measures 21-24, numerals 6, 6, 6, 6, 6, 6, 6, 6 are shown, with handwritten II, V, II, I above the 6s. In the seventh staff, measures 25-28, numerals 6, 6, 6, 6, 6, 6, 6, 6 are shown, with handwritten II, IV, I above the 6s. In the eighth staff, measures 29-32, numerals 6, 6, 6, 6, 6, 6, 6, 6 are shown, with handwritten II, V, II, I above the 6s.

FAULTY PROGRESSIONS.

By keeping the common tones in the same voice, by using contrary motion where there are no common tones, and by avoiding the doubled Bass tones of a sixth chord—in short, by using the preceding method of connecting triads and their

inversions faulty progressions are avoided. The following examples show faulty progressions:

Even an unpractised hearer would admit that the above progressions do not sound well. The cause for this bad tone effect is that at a) there is an octave progression between the Bass (from *C* to *D*) and the Soprano (from *C* to *D*), then there is a progression of fifths between the Bass (*C* to *D*) and the Alto (*G* to *A*). At b) there is a progression of octaves between the Bass (from *E* to *F*) and the Soprano (from *E* to *F*).

1. Octave progressions must be avoided.
 2. Progressions of fifths must be avoided.
- a) Octave progressions result when two voices move in parallel motion from one octave into another.
 - b) Progressions of fifths result when two voices move in parallel motion from one interval of a fifth into another.

The reason for the bad effect of octave progressions is, that in such a progression one of the voices loses its independence. The same reason answers for the progression of fifths. It is really the same thing if two voices say the same thing (the octave) or if one of them, the dependent (the fifth) repeats. Both show the dependent subordination of one voice under the other. An accompaniment of fifths, even in the inner voices in polyphonic music, is monotonous, consequently they cannot be used as an accompaniment, they should be avoided in all cases.

The following exercises are to be worked out avoiding faulty progressions. It must be remembered that neither retaining the common tone in the same voice, nor using contrary motion with the Bass will alone avoid faulty progressions. If, when the common tone is kept in the same voice, a faulty progression should result, it is better to give up the common tone and use contrary motion. If the faulty progression still remains after using contrary motion, it is best to look at the preceding work and change it so the progression can be avoided, rather than evade the note in one of the voices.

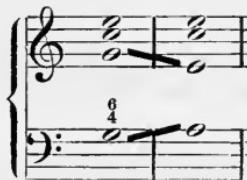
For example:



The parallel octaves between the Bass and Soprano are avoided by introducing contrary motion.



better than by avoidance in the Tenor.



at:



The parallel fifths between the Tenor and Soprano are better avoided by giving up the common tone in the preceding measure:



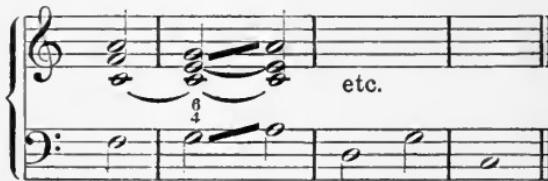
than by avoidance in the Soprano:



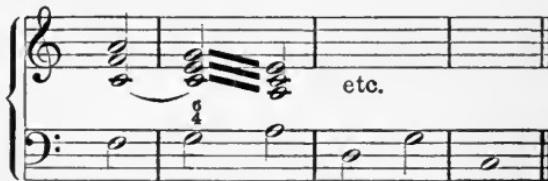
or in the Tenor:



Where a change in the preceding work does not act satisfactorily, or contrary motion is used and produces faulty progressions as:



and



one must look at the order of tones used (according to which the Alto always takes the tone nearest the Tenor in the triad and the Soprano the tone nearest the Alto in the triad) then lead the voices in open position.



EXERCISE.

(3) 6 6 6
a) 6 6/4 b) 6 6

SOLUTION: The triad on *C* is *C, E, G*; the figure three (3) shows that the third (*E*) must be in the Soprano. Tenor *G*, Alto *C*, Soprano *E*.

The following $\frac{6}{4}$ chord on *D* is the inversion of the triad on *G—G, B, D*. Common tone? *G*. Since *G* was in the Tenor it is retained in the Tenor of the new triad. The Alto goes from *C* to *B*, the Soprano from *E* to *D*.

(3) 6

The following sixth chord (on *E*) is the inversion of the triad on *C—C, E, G*. Common tone? *G*, therefore Tenor *G*, Alto goes from *B* to *C*. The Soprano would go from *D* to *E* if *E* were not the Bass tone of the sixth chord which should not be doubled, furthermore there would be octaves between the Bass and Soprano. The Soprano *D* in avoiding the *E* goes either to *C* or *G*. In this case it goes to *C* as *C* is the nearest.

(3) 6 6

The following triad (on *C*) is *C, E, G*. Common tones? *C* and *G*. Since the *G* was in the Tenor it remains there. *C* is retained in the Alto. Soprano goes to *E*.

6

The following sixth chord (on *B*) is the inversion of the triad on *G—G, B, D*. Common tone? *G*. Since the *G* was in the Tenor it is retained in that voice. The Alto *C* would go to *B* if *B* were not the Bass tone of the sixth chord, the doubling of which should be avoided. Therefore it goes to *G* or *D*. It takes the nearest tone, *D*. The Soprano could go to *D*; but in order to give the Soprano, the voice which carries the melody, more variety it goes up to *G*.

The following triad (on *C*) is *C, E, G*. Common tone? *G*. In this case there is a *G* in the Tenor as well as in the Soprano of the preceding triad. Here it is better to retain the common tone in the voice which, by keeping the tone, would give contrary motion to the other voices.

Furthermore at a) the Soprano is more melodious than at b).

The following triad (on *G*) is *G, B, D*. Common tone? *G*. Since *G* was in the Tenor it remains in the Tenor of the new triad. The Alto goes from *C* to *B*, Soprano from *E* to *D*.

The following sixth chord (on *A*) is the inversion of the triad on *F—F, A, C*.

Common tone? None, therefore use contrary motion with the Bass. The Soprano *D* descends to *C*. The Alto *B* would descend to *A* were *A* not the Bass tone of the sixth chord, the doubling of which should be avoided.

But, if the Soprano goes to *C* and the Tenor to *F*, a progression of fifths between the Soprano and Tenor results.

In order to avoid the *C* the Soprano *D* goes up to *F*:

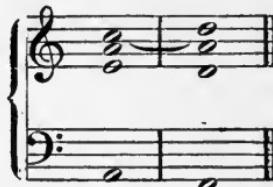
The following $\frac{6}{4}$ chord (on *G*) is the inversion of the triad on *C-C, E, G*. Common tone? *C*. Since *C* was in the Alto it is retained in that voice. Soprano goes from *F* to *E*, Tenor from *F* to *G*:

The following triad (on *A*) is *A, C, E*. Common tones? *C* and *E* in the Alto and Soprano. If both were retained, the Tenor would go from *G* to *A* in parallel octaves with the Bass:

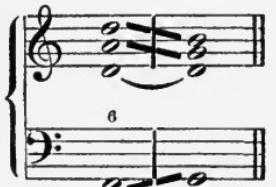
Therefore the common tones are given up and contrary motion with the Bass is used. The Soprano *E* descends to *C*, Alto *C* to *A*, and Tenor *G* to *E*.



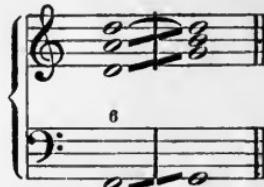
The following sixth chord (on *F*) is the inversion of the triad on *D—D, F, A*. Common tone? *A*. Since *A* was in the Alto it remains in the Alto of the new triad. Soprano *C* goes to *D*. The Tenor *E* would go to *F* were *F* not the Bass tone of the sixth chord, the doubling of which should be avoided. Therefore the Tenor *E* goes to *D*:



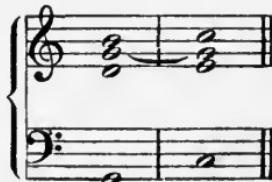
The following triad (on *G*) is *G, B, D*. Common tone? *D*. Since *D* is in the Tenor as well as in the Soprano of the preceding triad it can be retained in either voice. In this case it is retained in the voice which, by keeping the common tone, will give the other voices contrary motion with the Bass (see p. 28):



better than



The following triad (on *C*) is *C, E, G*. Common tone? *G*. Therefore Alto = *G*. Tenor goes from *D* to *E*, Soprano from *B* to *C*.



Complete solution of the exercise:

A musical score for two voices (treble and bass) in common time (C). The treble clef is on the top staff, and the bass clef is on the bottom staff. The score consists of two measures of music. Below the notes are numerical labels indicating harmonic functions: (3), 4, 5, 6, 6, 4. There is also a bracketed section labeled 6 above the bass staff.

Work out the following exercises after the above scheme.

A series of ten musical exercises for faulty progressions, each consisting of two staves (treble and bass) in common time (C). The exercises are numbered 1 through 10. Each exercise includes a harmonic analysis below the staves, showing Roman numerals and other symbols indicating faulty progressions. The exercises involve various key changes and harmonic schemes.

- Exercise 1:** Treble staff starts with a whole note (I), followed by half notes (II, I, V, I).
- Exercise 2:** Treble staff starts with a half note (I), followed by quarter notes (II, I, V, I).
- Exercise 3:** Treble staff starts with a half note (I), followed by quarter notes (II, I, V, I).
- Exercise 4:** Treble staff starts with a half note (I), followed by quarter notes (II, I, V, I).
- Exercise 5:** Treble staff starts with a half note (I), followed by quarter notes (II, I, V, I).
- Exercise 6:** Treble staff starts with a half note (I), followed by quarter notes (II, I, V, I).
- Exercise 7:** Treble staff starts with a half note (I), followed by quarter notes (II, I, V, I).
- Exercise 8:** Treble staff starts with a half note (I), followed by quarter notes (II, I, V, I).
- Exercise 9:** Treble staff starts with a half note (I), followed by quarter notes (II, I, V, I).
- Exercise 10:** Treble staff starts with a half note (I), followed by quarter notes (II, I, V, I).

The image shows three staves of musical notation. The first staff (5) starts with a bass note 'G' followed by a '6' and a '4'. It then has a 'Note. 3' with a '6' and a '6'. The second staff (3) starts with a bass note '6', followed by a '6', a '6', and a '6'. The third staff (5) starts with a bass note '6', followed by a '6', a '6', and a '6'. The notation uses Roman numerals (G, 6, 4, 3) and numbers (5, 3) above the staff to indicate specific notes or chords.

If two or more sixth chords follow one another, the Bass tone in one of them must be doubled otherwise the four-voiced character of the phrase is endangered; for it would give the impression of being written in three voices. For example:

The image shows three sets of musical staves. The first set, labeled 'not', shows a treble clef staff with a 'D' and a 'G' connected by a horizontal line, and a bass clef staff with two '6's. The second set, labeled 'but', shows a treble clef staff with a 'D' and a 'G' connected by a horizontal line, and a bass clef staff with two '6's. The third set, labeled 'or', shows a treble clef staff with a 'G' and a 'G' (two dots), and a bass clef staff with two '6's. The notation uses Roman numerals (D, G) and numbers (6) above the staff to indicate specific notes or chords.

NOTE. The line from *D* to *G* means that here, in spite of the common tone *D*, contrary motion should be used in order to make the Soprano more melodious.

It is advisable to transfer some of the already solved exercises for the piano, so that the Soprano is used as a held melodie voice and enters at the same time as the Bass, while the Alto and Tenor follow one another as quarter notes in a triplet, (as at a.) or as two quarter notes struck together after the Soprano (as at b.). In this way one sees that the four-voiced phrase has a meaning even in cases where the first glance does not give the impression of being four-voiced, that is, when all four voices do not sing at the same time.

The musical score consists of three parts labeled a), b), and c).

Part a) Shows three staves. The top staff has a treble clef, a key signature of one sharp, and common time. The middle staff has a bass clef, a key signature of one sharp, and common time. The bottom staff has a bass clef, a key signature of one sharp, and common time. The vocal parts are labeled Sopr., Alt., and Ten. The progression is marked with Roman numerals: (3), 6, 6, 6, 6, 4, 3.

Part b) Shows three staves. The top staff has a treble clef, a key signature of one sharp, and common time. The middle staff has a bass clef, a key signature of one sharp, and common time. The bottom staff has a bass clef, a key signature of one sharp, and common time. The vocal parts are labeled Sopr., Alt., and Ten. The progression is marked with Roman numerals: (3), 6, 6, 6.

Part c) Shows two staves. The top staff has a treble clef, a key signature of one sharp, and common time. The bottom staff has a bass clef, a key signature of one sharp, and common time. The progression is marked with Roman numerals: 6, 4, 5, 3.

Do not fail to examine all such variations at the end of each chapter.

CADENCE, OR CLOSE.

The conclusion is the most absolute expression of all artistic creative sense.

In every art there are means of expression which are considered the best for the conclusion and these are the typical closing formulas. One should not be afraid to repeat these formulas, or try to avoid them in order to make the conclusion original; for the conclusion of a piece does not require originality, but a decided closing effect.

There are two part

three part
and four part

Cadences (or closing formulas).

I. The two part cadence consists of the dominant triad (on the V. degree) followed by the tonic triad (on the I. degree). For example in *C* major:



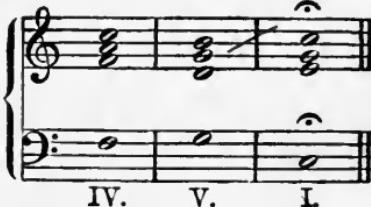
Authentic cadence.

It may also consist of the sub-dominant triad (on IV. degree) followed by the tonic triad (I. degree). For example in *C* major:

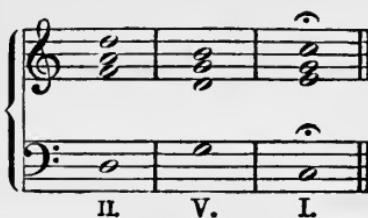


Plagal cadence.

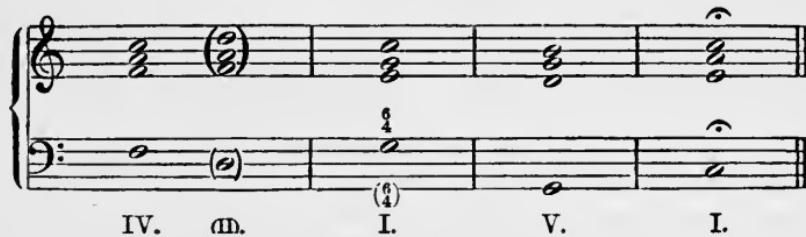
II. The three part cadence consists of the sub-dominant triad, the dominant triad and the tonic triad. For example in *C* major:



or of the triad on the II. degree, the dominant triad and the tonic triad. For example in *C* major:



III. The four part cadence consists of the sub-dominant triad (on the IV. or II. degree) the four-six position of the tonic triad, the dominant triad and the tonic. For example in *C* major:



Look at all the preceding exercises which have been worked out and see if they close with a two part authentic (V. I.) or plagal cadence (IV. I.) or with a three part (IV. V. I. or II. V. I.) or a four part (IV. (II.) I⁶. V. I.) cadence. Mark the succession of degrees in the cadence with Roman numerals*) and play them on the piano.

The theorists of the old school claim that all theory work should be done without the aid of an instrument. *Play all exercises on the piano.* This does no harm to those who can tell how a thing sounds simply from seeing it on paper, and for those who have not this faculty naturally it is the best and only means of acquiring it.

*) For the major triads the large figures I, IV, V are used, for the minor triads the small figures II, III, VI and for the diminished triad the small figures with the sign ° (VII°).

THE HARMONIZATION OF A GIVEN SOPRANO.

The exercise, to harmonize a given Soprano, is in itself an exercise in composition. Those who are to a certain extent musical can hear without any trouble musical and logical harmonies for a given melody. What has been learned up to this time must serve as a means of solving the new exercises.

Till now a fixed succession of chords has not been spoken of except in the cadence.

The successions taken from the cadence are the only ones warrented as logical and musical.

The successions:

V.	—	I.
IV.	—	I.
IV.	—	V.—I.
II.	—	V.—I.
IV.—I ₄ ⁶ .	—	V.—I.
II.—I ₄ ⁶ .	—	V.—I.

are in all cases logically related.

It is important that these successions be used in the course of a piece and not alone in the cadence.

One should consider a given melody as consisting of melodious parts, then try to use a cadence formula in each of the parts. For example the melody:

falls into two parts when it is separated into cadences. The first part begins with the tonic triad and closes with the tonic triad. From the tonic triad (as conclusion) the logical succession IV. V. or II. V. may be used. Since the *D* in the melody is not contained in the triad on the IV. degree, in this case the triad on the second degree must be used:

If all these triads were used in fundamental position there would be a progression of octaves in the second measure.



C: I. II.

Therefore it is necessary to use inversions:

instead of

C: I. II.

write

C: I. II.

The sixth chord, but not the four-six chord, may be used as a substitute for the fundamental position of every triad except at the close, since the conclusion does not have the desired closing effect unless the triads are in fundamental position.

and instead

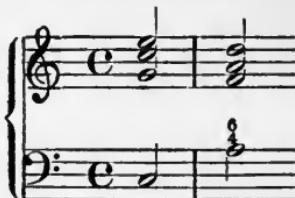
or

but not

and instead

but not

Just as soon as a four-six chord enters free, except under certain conditions, it produces a closing effect, that is, when it acts as a fore-runner of the dominant triad which leads into the triad of its key in the cadence. The entrance of the four-six chord at



gives the impression that the cadence would be led into the key of the triad of which the four-six chord was the inversion.

C: I. d: I. V. L

When the four-six chord is used as a passing chord it does not have this closing effect. As a passing chord, its Bass tone (the fifth of its fundamental position) must come on the degree between the Bass tones of two other chords, and its fourth (fundamental tone) must be contained in the chord preceding it. For example:

The triad on the VI. degree can be substituted for the tonic triad except at the close (pp. 44, 45).

The means of harmonizing a melody in various ways have been greatly increased by the possibility of using this sub-

stitute and the sixth position of every triad, even though they depend upon the cadence formulas.

G: I. V. I. IV. I. II. V. I.

G: I. V. I. IV. I. II. V. I.

G: I. V. I. IV. I. II. V. I.

G: I. V. VI. IV. I. II. V. I.

The harmony:

G: I. V. VI. IV. I. II. V. I.

is not good because the four-six chord is in the wrong place (not directly before the dominant). The cadence II. V. I., after the four-six chord has been struck, has the effect of unending frivolous talk. One would not write:

I⁷. II. V. I.

in place of

II. I⁷. V. I.

Another possibility in harmonizing the above given melody is to consider the 6 measure as belonging with measure 4 in sub-dominant (II. degree) relation. It would then be possible to connect the triad on the II. degree with another triad on the same tone degree through the melody tone *B*. The triad on any tone degree may be reached by letting its V. degree precede it. The triad on *A*, for example, is reached through the triad on its V. degree (that is the triad on *E*. VI. degree from the tonic).

G: II. VI. II.

(V. degree
of A.)

Completed (with the use of a passing four-six chord):

I. V. VI. II. (VI) II. V. I.

The triad on the VII. degree (mostly in sixth position) is often used as a substitute for the triad on the V. degree

before the tonic triad. In analogy with this cadence succession the triad of any tone degree can be reached through the triad of its VII. degree.

Harmonize the following Sopranos in various ways.

The triad on the III. degree is nearly always used in cadence connection, that is, it acts as the triad on the V. or VII. degree, to the triad to which it leads (p. 40). For example:

In a two part measure:

- In the two part cadence the dominant and sub-dominant come on the unaccented and the closing tonic triad on the accented part of the measure.
- In the three part cadence the sub-dominant comes on the accented and the dominant on the unaccented part of the measure.
- In the four part cadence the $\frac{6}{4}$ chord (between sub-dominant and dominant) comes on the accented part of the measure.

In the three part measure:

- In the three part cadence the sub-dominant comes on the second and the dominant on the third part of the measure.
- In the four part cadence the $\frac{6}{4}$ chord (between the sub-dominant and dominant) comes on the second part of the measure.

Avoid

$\overline{\text{II}} - \overline{\text{IV}}$
$\overline{\text{V}} - \overline{\text{II}}$
$\overline{\text{V}} - \overline{\text{IV}}$

$\overline{\text{VII}}$ goes to $\overline{\text{I}}$

$\overline{\text{III}}$	"	"	$\overline{\text{IV}}$	or	$\overline{\text{VI}}$
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PART II.

SEPT-CHORDS.

Every sept-chord consists of a fundamental, its third, its fifth and its seventh.

A sept-chord can be formed on every tone of the scale. If a sept-chord be formed on every tone of the scale, the leading tone being used also, it will be found that part of the sept-chords consist of a major third, perfect fifth and major seventh, part of a minor third, perfect fifth and minor seventh, and one of a major third, perfect fifth and minor seventh, and one of a minor third, a diminished fifth and a minor seventh.

The difference of the sept-chords does not concern us at present.

There is one thing common to all sept-chords; that is dependence, dependence in as much that they can not stand alone, but require resolution. On hearing a triad one could just as well take it for the close as for the beginning of a piece, but with a sept-chord the ear always expects a continuation (or resolution).

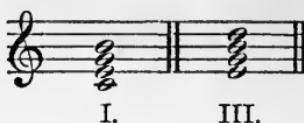
The seventh in all sept-chords must *descend* one diatonic degree.

As soon as a tone becomes the seventh of another tone (as fundamental) it loses its relation to the key and requires resolution (p. 15).

There are two sept-chords in every scale which contain two notes that require resolution. These are the sept-chords on the V. and VII. degrees of the scale. In them the VII. tone of the scale is used as the third and as the 'fundamental, therefore it has all the qualities of the leading tone (p. 15).

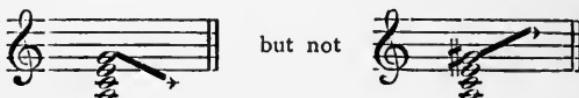
The resolution of these two sept-chords is carried out so that the seventh descends and the leading tone ascends one diatonic degree.

The VII. degree of the key is contained in the sept-chords on the I. and III. degree of the scale. For example in *C* major:



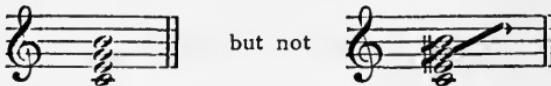
In the sept-chord (designated by the figure 7) on the I. degree the VII. degree is the seventh. Since all tones loose whatever meaning they might have had in connection with the key as soon as they become the seventh of another tone, the VII. degree in the triad on the I. degree looses its qualities as leading tone and descends.

It is easily seen that in the sept-chord on the I. degree in the minor scale the VII. degree (as soon as it becomes a seventh) does not have any qualities of a leading tone and consequently is not raised. The sept-chord on the I. degree of the *A* minor scale is:



The VII. degree of a scale is the fifth in the sept-chord on the III. degree, therefore it does not have the qualities of a leading tone and is not raised (p. 15).

For example in *a* minor:

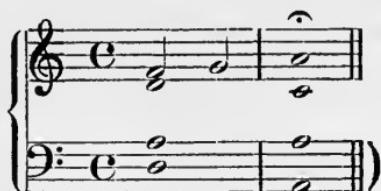


As soon as one tries to make a close connection of the chords belonging to a key, as soon as one desires that all the consonant triads of the Harmony material be related to one among them, the tonic triad, in the same way as all the tones of a scale are related to the tonic, the union of both demands leads to two scales, the major and minor, which most completely fulfill the conditions.

The minor system is not as clear and easily understood as the major, this results, as it were, through a compromise between the different demands, the one through the law of tonality, the other through the connection of Harmony material. (Helmholtz, *Lehre von den Tonempfindungen*.)

The transformations, which the minor system underwent during its development, all aimed at producing the nearest possible analogy to the major system.

The leading tone was introduced only to make the authentic cadence possible. (Even at the present day the Plagal cadence is often written as follows):

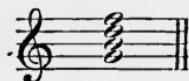


The desired analogy is better carried out if the double meaning of the VII. degree (sometimes with leading tone qualities and sometimes without) is transferred to the minor (it is also used in the major) than if its original meaning, which only occurs in fixed places, be forgotten.

THE SEPT-CHORD ON THE V. AND VII. DEGREE.

(Sept-chords with two notes requiring resolution.)

i. The sept-chord on the V. degree in *C* major for example:



The third (*B*) as leading tone must ascend to *C*.

Since the VII. degree of the scale is the third of the sept-chord on the V. degree, it has all the qualities of the leading tone, therefore it is raised in the minor scale. For example in *a* minor:



The sept-chord on the V. degree consists (both in major and in minor) of a fundamental tone, major third, perfect fifth and minor seventh. Since in every key there is but one sept-chord consisting of these intervals, wherever such a sept-chord is found it must be the sept-chord on the V. degree, whether it is in major or minor. For example:

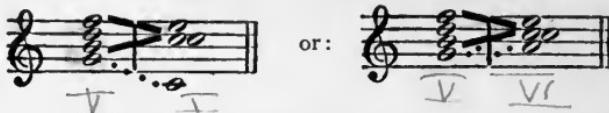


can only be the sept-chord in the key in which *B* is the V. degree; that is *E* major, or *e* minor.

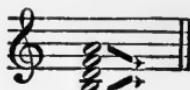
The seventh, *F*, requires the progression downward to *E*.

Since the tones to which the leading tone and seventh resolve (*C* and *E*) have been given, the sept-chord *G, B, D,*

F will go to a triad which contains these tones of resolution, that is, either to the triad on the I degree (in which these are the fundamental and third) or its substitute (p. 38) the triad on the VI. degree (in which they are the third and fifth).



2. The sept-chord on the VII. degree of the *C* major scale is:



The fundamental (*B*) as leading tone requires the continuance upward to *C*.

Since the VII. degree of the scale is the fundamental of the sept-chord on the VII. degree it has all the qualities of a leading tone, therefore it is raised in the minor. For example in *a* minor.



The seventh (*A*) requires the progression downward to *G*. Since the tones to which the leading tone and seventh resolve have been given (*C* and *G*), the sept-chord *B*, *D*, *F*, *A* will go to a triad which contains these tones, that is, the triad on the I. degree, *C*, *E*, *G*, (in which these tones are fundamental and fifth).



EXAMPLE.

SOLUTION. The triad on *C* is (*C*, *E*, *G*), Soprano *E*, Alto *C* and Tenor *G*. The following sept-chord (on *B*) is *B*, *D*, *F*, *A*. Common tone? None. Therefore use contrary motion to the

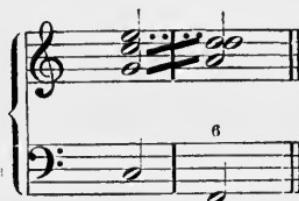
Bass. The Soprano goes from *E* to *F*, the Alto from *C* to *D*, the Tenor from *G* to *A*.



For the resolution of this sept-chord (VII. degree) the seventh (*A*) must descend to *G*, the leading tone, *B*, must ascend to *C*. For the following triad (on *C*) with the exception of the Bass tone *C*, which is the tone of resolution for the preceding leading tone *B*, the Tenor takes *G*, the resolution of the preceding seventh, *A*. The Soprano goes from *F* to *E*, the Alto from *D* to *C*.



The following sixth-chord (on *F*) is the inversion of the triad on *D*—*D*, *F*, *A*. Common tones? None. Therefore use contrary motion. The Tenor goes from *G* to *A*, the Alto from *C* to *D*, the Soprano, in order to avoid *F*, which is the Bass tone of the sixth chord, goes to *D*.



The following sept-chord (on *G*) is *G*, *B*, *D*, *F*. Common tones? *D*. In order to make it possible for the other voices

to move in contrary motion with the Bass, it is better to retain the *D* in the Soprano than in the Alto.

At b) the fundamental tone (*G*) and the seventh (*F*) move in the same direction.

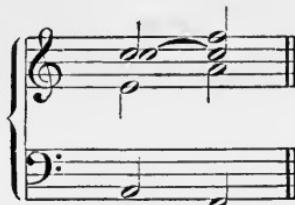
Avoid introducing the fundamental and seventh so that they move in the same direction.

For the resolution of the sept-chord *G, B, D, F* (V. degree) the seventh (*F*) descends to *E*, and the leading tone (*B*) goes up to *C*. Therefore in the next triad (on *A*) the Tenor takes *E*, the tone of resolution for the preceding seventh (*F*), the Alto takes *C*, the tone of resolution for the leading tone (*B*). The Soprano, *D*, can only go to *E* because it would make a progression of fifths with the Bass if it went to *E*.

When it is necessary to double the third to give the proper resolution to the leading tone or to a seventh, as in this case in the triad on *A*, it does not have a disturbing effect if introduced in contrary motion. The ear considers necessity a sufficient excuse.

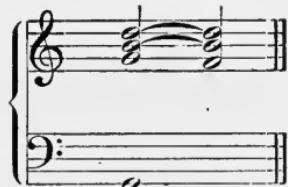
The following triad (on *F*) is *F, A, C*. Common tone? *C*. In order to make it possible for the other voices to move

in contrary motion, the common tone is retained in the Alto. The Soprano goes from *C* to *F*, the Tenor from *E* to *A*.

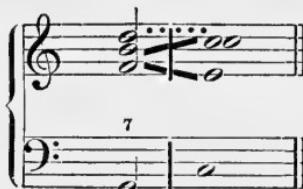


The following triad (on *G*) is *G, B, D*. Common tone? None. Therefore use contrary motion: Soprano goes from *F* to *D*, the Alto from *C* to *B*, the Tenor from *A* to *G*.

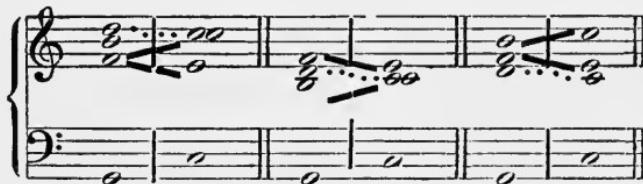
The following sept-chord (on *G*) is *G, B, D, F*. Common tones? *B* and *D*. Tenor goes to *F*.



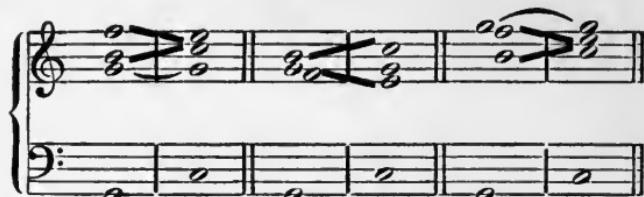
To resolve the sept-chord *G, B, D, F* (V. degree) the seventh (*F*) descends to *G* and the leading tone (*B*) goes up to *C*. In the following triad on *C*, the Tenor takes *E*, the tone of resolution for the preceding seventh (*F*), the Alto takes *C*, the tone of resolution for the preceding leading tone (*B*). The Soprano goes from *D* to *C*, rather than double the third, *E*, which is not necessary in this case.



The resolution of the sept-chord on the V. degree to the triad on the I. degree gives a triad without a fifth.



If the fifth of the sept-chord on the V. degree is omitted and the fundamental is doubled in its stead, in the resolution, by retaining the doubled fundamental as the fifth of the following triad, the complete tonic triad results.



EXERCISES.

(3)

(8)

(5)

(8)

(3)

(5)

(5)

Note

Note

NOTE. If ~~another~~ voice descends and takes the tone of resolution for the seventh, the seventh, in order to avoid its tone of resolution, may go up or skip down. For example:

The Bass descends to the tone of resolution for the seventh, so the voice which contains the seventh will either go down to *C* or up to *G*.

INVERSIONS OF THE SEPT-CHORD.

If a triad has two inversions: 1. with the third and 2. with the fifth in the Bass, a sept-chord has three: 1. with the third, 2. with the fifth, and 3. with the seventh in the Bass.

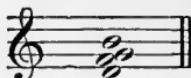
These inversions are named by the distance the Bass tone is from the fundamental and seventh. For the inversions of

the following signs are used.

First inversion: The third is in the Bass:

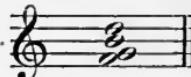
The Bass tone (*B*) is a fifth from the seventh (*F*), and a sixth from the fundamental tone (*G*). The name of this first inversion is therefore $\frac{5}{6}$ chord (*Five-Six Chord*).

Second inversion: The fifth is in the Bass:



The Bass tone (*D*) is a third from the seventh (*F*) and a fourth from the fundamental tone (*G*). The name of this inversion is therefore $\frac{4}{3}$ chord (*Three-Four Chord*).

Third inversion: The seventh is in the Bass:



The Bass tone (*F*) is a second from the fundamental (*G*) (the seventh is the Bass tone itself). The name of this inversion is therefore $\frac{2}{1}$ Chord (*The Two Chord or Chord of the Second*).

The fundamental position is indicated by 7, because the fundamental, which is then Bass tone, is a seventh from the seventh.

It is best always to think of the inversion of the sept-chord in its fundamental position first, after the following scheme:

Every $\frac{6}{5}$ chord is that inversion of a sept-chord in which the third of the fundamental position is in the Bass.

Every $\frac{4}{3}$ chord is that inversion of a sept-chord in which the fifth is in the Bass.

Every $\frac{2}{1}$ chord is that inversion of a sept-chord in which the seventh is in the Bass.

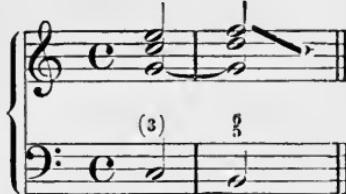
From what tone is the Bass tone in question the third, or fifth, or seventh? From X, or Y, or Z. Therefore it concerns the inversion of a sept-chord on X, or Y, or Z.

EXERCISE.

SOLUTION. The triad on *C* is *C, E, G*. The figure (3) indicates that the third must be in the Soprano, thus; Soprano *E*, Alto *C*, Tenor *G*.

The following $\frac{5}{3}$ chord on *B* is the inversion of the sept-chord on *G—G, B, D, F*. Common tone? *G*. Since *G* was in the Tenor it is retained in that voice.

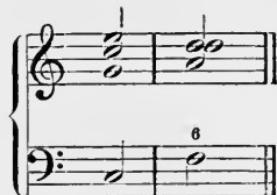
The Alto goes from *C* to the tone nearest it, *D*, the Soprano *E* to *F*.



For the resolution of this five-six chord the seventh (*F*) descends to *E*, and the leading tone (*B*) goes up to *C*. In the following triad (on *C*), the Bass tone (*C*) is the tone of resolution for the preceding leading tone (*B*). The Soprano takes *E*, the tone of resolution for the preceding seventh (*F*). The Tenor retains *G* and the Alto goes from *D* to *C*.



The following sixth chord on *F* is the inversion of the triad on *D—D, F, A*. In order to avoid the *F* (because it is the Bass tone of the sixth chord) the Tenor goes from *G* to *A*, the Alto to *D*, the tone nearest it, and the Soprano to *D*:



The following $\frac{4}{3}$ chord on *D* is the inversion of the sept-chord, in which *D* is fifth, on *G—G, B, D, F*. Common tones? None. Since *D* is in the Bass it cannot be retained either

in the Alto or Soprano as a common tone. Tenor goes from *A* to *G*, Alto from *D* to *B* and Soprano from *D* to *F*.

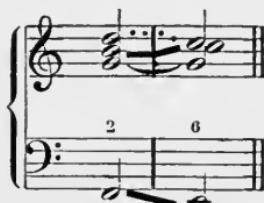
For the resolution of this $\frac{4}{3}$ chord the seventh, *F*, descends to *E* and the leading tone, *B*, goes up to *C*. In the following triad on *C* the Soprano takes *E*, the tone of resolution for the preceding seventh, *F*, the Alto, *C*, the tone of resolution for the preceding leading tone *B*. Tenor retains *G*.

The sixth chord on *E* and the following triad on *G* are as follows:

The following chord of the second on *F* is the inversion of the sept-chord on *G*, in which *F* is the seventh,—*G*, *B*, *D*, *F*. Common tones? *G*, *B*, *D*.

For the resolution of this chord of the second the seventh, *F*, descends to *E* and the leading tone, *B*, goes up to *C*. In

the following sixth chord on *E*, the Bass has the tone of resolution for the preceding seventh. The Alto takes *C* the tone of resolution for the preceding leading tone *B*. *G* is retained in the Tenor and the Soprano goes from *D* to *C*, in order to avoid doubling the Bass tone *F*.



After the triad on *A* and the sixth chord on *F* have been connected as follows:



the sept-chord on *G-G, B, D, F*, must be formed. If the common tone *D* were retained in the Tenor and the Alto went from *A* to *F* and the Soprano from *D* to *B* a sept-chord would result, but not in the position which gives a complete triad as its resolution. In order to obtain such a resolution the fifth, *D*, of the sept-chord is omitted and the fundamental, *G*, is doubled instead, thus the Soprano takes *B*, the Alto *G* and the Tenor *F*:

For the resolution of this sept-chord the seventh, *F*, descends to *E*, the leading tone, *B*, goes up to *C*. In the following triad on *C* the Tenor takes, *E*, the tone of resolution for the preceding seventh *F*. Soprano takes *C*, the tone of

resolution for the preceding leading tone *B*. *G* is retained in the Alto.

The complete solution is as follows:

EXERCISES:

(8) Note 6 4^b₂ 6 6^b₃ 3 6 7^b₃

Note

Note see note p. 32.

NOTE: In this case the seventh must avoid its tone of resolution, because it is taken by the descending Bass. If the tone of resolution is taken by another voice ascending, the seventh can avoid it then also. For example:

or

Since the seventh in renouncing its real qualities avoids its tone of resolution if another voice moves down to it, where the seventh really does take its tone of resolution it is important that all the other voices should avoid moving down to it. Under no consideration:

Do not fail to write a number of these exercises over. Thus

(3) 5 6 4 6

2 6 6 7

THE SEPT-CHORD ON THE V. DEGREE, DOMINANT SEPT-CHORD, IN THE CADENCE.

The dominant sept-chord is particularly well suited to form the close because it resolves to the tonic triad. The cadence forms before mentioned can be broadened by using the dominant sept-chord in place of the triad on the V. degree.

The resolution of the dominant sept-chord to the tonic triad, in which the tones of resolution for the leading tone and seventh are the fundamental and third, is much oftener used than that to the triad on the VI. degree, in which the tones of resolution are the third and fifth, because it is so well suited to form a close. Both resolutions are equally justified, if on the second a deceptive cadence is not constructed as an exceptional case. The dominant sept-chord's need of resolution is satisfied as soon as the leading tone ascends and the seventh descends.

The triad on the V. degree can be made a sept-chord by adding its seventh, but a sept-chord cannot be reduced to a triad by reversing the process.

A musical staff in G clef. It shows a dominant sept-chord (G-B-D-F#) followed by a half note G. This is followed by a dominant triad (G-B-D) followed by a half note D.

but not:

A musical staff in G clef. It shows a dominant triad (G-B-D) followed by a half note B. This is followed by a dominant sept-chord (G-B-D-F#) followed by a half note F#.

EXERCISE: Harmonize the following soprano using the dominant sept-chord and its inversions.

A soprano line in G clef. The notes are: C, E, G, B, D, F, A, C, E, G, B, D, F, A, C.

SOLUTION:

A harmonic analysis of the soprano line. The soprano notes are harmonized with dominant sept-chords and inversions. The bass line is indicated below with Roman numerals: C: I., II., V., I. (with a brace), I., II., V₇, I.

The use of the dominant sept-chord in the II. measure, because *F* is the seventh of the dominant sept-chord, is not admissible because it would make it necessary to reduce the sept chord to a triad.

C: I. V₇. V.

A repetition of the sept-chord in the III. measure is not possible, because the given voice moves down to *E*, the tone of resolution for the seventh *F*, consequently the seventh would have to avoid the *E*.

The possibility of the seventh not taking its tone of resolution should not lead to the thoughtless use of a sept-chord wherever the given voice descends to the tone of resolution for a seventh. In such cases care should be taken not to use a sept-chord.

Instead of repeating the tonic triad in sixth position, measures 3 and 4, its substitute, the triad on the VI. degree, could be used.

C: I. II. V. I. VI. II. V₇. I.

60 THE SEPT-CHORD ON THE V. DEGREE, DOMINANT SEPT-CHORD etc.

In forming a cadence, instead of the three part cadence II.-V₇. I., a two part V. V₇. I. may be formed by repeating the dominant chord. This cannot be reversed, V₇. V.I.



but not:



NOTE. The skip of an octave in the Bass (*G*) is advisable in order to avoid retaining the Bass tone over a measure because it always has the effect of a hesitation in the flow of the rhythm. This only means the repetition of the same Bass tone so that here the fundamental and seventh will not move in the same direction.



EXERCISE: Harmonize the following sopranos using the dominant sept-chord and its inversions where it is possible to do so.

The sept-chord on the VII. degree may be used as the dominant sept-chord because the resolution of its seventh and the leading tone are the fifth and fundamental tone in the tonic triad. It does not have as pronounced a closing effect as the dominant chord. It is almost never inverted.

THE SEPT-CHORD ON OTHER DEGREES OF THE SCALE.

All sept-chords not on the V. or VII. degree have but one tone which requires resolution.

For the resolution of these sept-chords the seventh must descend one diatonic degree.

It can be resolved to any triad, sept-chord or their inversions, which contains the tone of resolution for the seventh.

Therefore every sept-chord not on the V. or VII. degree can go to the triad in which the tone of resolution for its seventh is either

1. Fundamental,
2. Third,
3. Fifth,

b) or to the sept-chord in which the tone of resolution for its seventh is either

1. Fundamental,
2. Third,
3. Fifth.

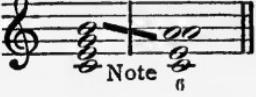
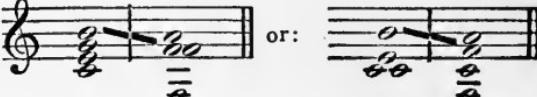
It can not go to a sept-chord in which the tone of resolution for its seventh is the seventh, because the seventh and fundamental of the second sept-chord would have to move in the same direction. For example:

(see page 48).

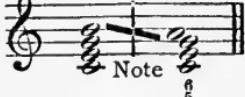
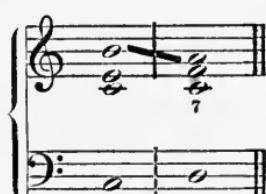
62 THE SEPT-CHORD ON OTHER DEGREES OF THE SCALE.

For example the sept-chord on the I. degree in *C* major can be resolved as follows:

at a)

1. 
2. 
3. 

at b)

1. 
2. 
3. 

NOTE. In the first case only the sixth position of the triad can be used and in the second case only the $\frac{5}{6}$ position of the sept-chord, because the use of fundamental position would make the Bass descend to the tone of resolution for the seventh:



The progressions before mentioned are well suited to use with sept-chords.

The equal right of all progressions of sept-chords, in which the seventh descends and nothing is done contrary to the rules of voice progression, is particularly emphasized in order to oppose the idea that all sept-chords must progress after a fixed scheme like the sept-chord on the V. degree.

This idea has become so fixed that it is said these sept-chords naturally resolve into the triad a fourth degree above or a fifth degree below their fundamental tone, but it is impossible to speak of the natural resolution of a chord to a certain triad when only one tone of its progression (the tone of resolution for the seventh) is given.

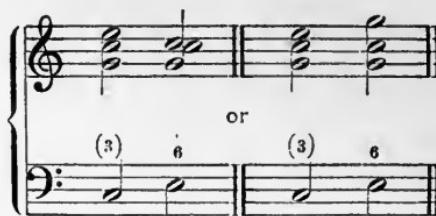
PREPARATION OF THE SEVENTH IN ALL SEPT-CHORDS EXCEPT THOSE ON THE V. AND VII. DEGREE.

The treatment of a sept-chord in which there is but one tone requiring resolution is simpler than that of the sept-chord on the V. and VII. Degrees in which there are two tones requiring resolution. The seventh in these sept-chords must be prepared. A seventh is prepared when the tone which constitutes the seventh is a prolonged tone which forms one of the intervals of the preceding chord, so that it is tied, or held over by the same voice into the following chord. For example:

In the following exercise:

it is necessary to double the Bass tone in the sixth chord on E in order to give the seventh its required preparation.

It cannot be worked without doubling the Basstone *E*:



The preparation of the seventh must be as long as the following seventh.

A preparation is only necessary in dependant dissonant chords in which it is hard to tell which way they will proceed on first hearing them. In the sept-chords on the V. or VII. degree the tones of resolution for the leading tone and seventh point so plainly to the probable progression (either the triad on the I. degree or the triad on the VI. degree) that, as soon as sounded, the hearer is not in doubt a moment as to which way they will go.

It is quite different with the sept-chords on the other degrees, because there are so many chords to which one of these dependent sept-chords can resolve. The hearer is quite at a loss to know what resolution a dependent sept-chord will take. This produces an unpleasant surprising effect unless it is prepared.

The preparation of every dissonant chord may be omitted as soon as its progression has become familiar to the hearer. Thus the preparation for the sept-chord on the second degree, which occurs again and again with the same meaning, (substitute for the sub-dominant) in the cadence, has gradually become superfluous. (At present it must be prepared.)

One finds that a dissonant chord is prepared at its first entrance, but when used the second or third time in the theme the preparation may be omitted as its progression is familiar to the hearer and does not produce a surprising effect.

EXERCISE:

SOLUTION. The triad on *F* is *F*, *A*, *C*. Soprano *A*, Alto *F*, Tenor *C*. In the following sixth chord on *A*, the inversion of the preceding triad *F*, *A*, *C*, the tones *F*, *A* and *C* are retained in their voices. The Soprano has the doubled Bass tone, *A*, in order to prepare for the seventh in the following sept-chord *Bb*, *D*, *F*, *A*.

The following sept-chord on *Bb* is *Bb*, *D*, *F*, *A*. The preparation for the seventh *A* is in the Soprano. The Alto retains *F* and the Tenor goes from *C* to *D*.

For the resolution of this sept-chord the seventh *A* descends to *G*.

The following $\frac{6}{5}$ chord (on *Bb*) is the inversion of the sept-chord on *G*, *G*, *Bb*, *D*, *F*. The seventh, *F*, has been prepared in the Alto. The Soprano takes *G*, the tone of resolution for the preceding seventh, *A*. The seventh, *F*, can only come in the voice which has the preparation, in this case the Alto. Tenor retains *D*.

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In the resolution of the $\frac{6}{5}$ chord on $B\flat$ the seventh (F) would descend to E , but E is not contained in the following sept-chord on G .

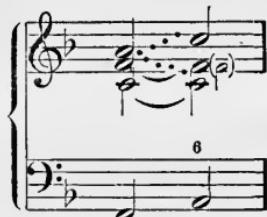
On thinking this over it becomes clear that this is not an exceptional case in which the seventh does not take its tone of resolution, but that it is simply a repetition of the sept-chord in fundamental position which was used in the preceding measure in $\frac{6}{5}$ -position. The seventh (F) remains in the Alto, the Tenor retains D and the Soprano goes from G to $B\flat$.

For the resolution of the sept-chord (on G) $G, B\flat, D, F$ the seventh (F) descends to E . The following sept-chord on C is $C, E, G, B\flat$. Since this is the sept-chord on the V. degree, no preparation is necessary for the seventh, $B\flat$. But, since the $B\flat$ is already in the Soprano of the preceding chord, it would be entirely out of place to put it in another voice simply to show that as dominant sept-chord it can enter without preparation.

Thus in the sept-chord (on C) $C, E, G, B\flat$, the Alto takes E , the tone of resolution for the preceding seventh, F . The Soprano retains $B\flat$ and the Tenor goes from D to C .

For the resolution of the sept-chord (on C) $C, E, G, B\flat$, the seventh ($B\flat$) descends to A and the leading tone (E) goes up to F . Tenor retains C .

The following sixth chord on *A* is the inversion of the preceding triad (on *F*) *F, A, C*. Tenor *C*, Alto *F* are retained. In order to avoid doubling the Bass tone *A* the Soprano goes to *C*, which in this case is better than *F* because it gives the Soprano more variety.



It is possible to present every sept-chord, with the exception of the one on the VII. degree, in two fundamental positions with all its intervals, or by omitting the fifth and doubling the fundamental tone instead. (See p. 50.)

(In the sept-chord on the VII. degree the fundamental tone cannot be doubled because it is the leading tone.) (See p. 16.)

When several sept-chords follow one another in fundamental position the second manner of presentation (omitting the fifth and doubling the fundamental) alternates with the first, which has all the intervals.

The following sept-chord on *D* is *D, F, A, C*.

The preparation for the seventh, *C*, is in both the Soprano and Tenor. In order to give contrary motion to the remaining voices the preparation in the Soprano is used. *F* remains in the Alto, the Tenor goes from *C* to *D* (doubling the fundamental tone).



For the resolution of the sept-chord (on *D*) *D, F, A, C*, the seventh, *C*, descends to *B*flat.

The following sept-chord (on *G*) is *G, B*flat, *D, F*. The seventh *F* is prepared in the Alto. The Soprano takes *B*flat, the tone of resolution for the preceding seventh, *C*. The

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seventh, *F*, can only come in the voice which has the preparation, the Alto. The Tenor retains *D*.



For the resolution of this sept-chord the seventh, *F*, must descend to *E*. Since the Bass has *E* the tone of resolution, the seventh must avoid it and go either to *G* or *C*. The Soprano remains on the common tone *B*_b, although the seventh of a dominant sept-chord does not require preparation. Tenor goes to *C*.



For the resolution of this dominant sept-chord in $\frac{6}{8}$ position the seventh, *B*_b, descends to *A* and the leading tone, *E*, goes up to *F*. The Alto goes from *G* to *F*. The Tenor retains *C*.



The following $\frac{6}{8}$ chord (on *B*_b) is the inversion of the sept-chord (on *G*) — *G*, *B*_b, *D*, *F*. The seventh, *F*, is prepared in the Alto. The Soprano goes from *A* to *G*, the Tenor from *C* to *D*.



For the resolution of this $\frac{6}{5}$ chord the seventh, *F*, descends to *E*. The Soprano retains *G*. The Tenor *D* goes to *B* \flat , the seventh of the following dominant sept-chord which needs no preparation.



For the resolution of this sept-chord on the V. degree the seventh (*B* \flat) descends to *A* and the leading tone (*E*) goes up to *F*. The Soprano goes from *G* to *F*.



Complete:

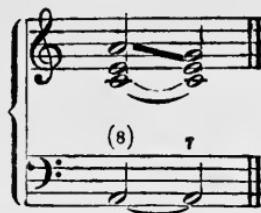
EXERCISES:

The exercises are as follows:

- (5) $\frac{5}{3} 2$ 6 7 $\frac{5}{3}$ 6 7 6 $\frac{5}{3}$ 8 7
- (3) 6 7 6 $\frac{5}{3}$ 6 7 $\frac{5}{3}$ 7 7 7
- (8) 2 6 6 7 $\frac{5}{3}$ 7 7 7 7
- (3) 6 7 $\frac{5}{3}$ 6 7 $\frac{5}{3}$ 7 7 $\frac{5}{3}$ 8 7
- (8) 2 6 $\frac{5}{3}$ 7 $\frac{5}{3}$ 6 $\frac{5}{3}$ 7
- (8) 7 6 6 5 $\frac{5}{3}$ 2 6 7 $\frac{5}{3}$ 8 7 $\frac{5}{3}$ 4 5
Note: A circled note is shown under the 5 in the 5th measure.
- (5) 6 6 7 6 7 6 2 $\frac{5}{3}$ 6 7 $\frac{5}{3}$ 7
- (3) 7 6 7 7 7 7 7
- (5) 6 7 7 6 7 6 2 $\frac{5}{3}$ 6 7 $\frac{5}{3}$ 7
Note: A circled note is shown under the 5 in the 5th measure.
- (3) 6 6 6 7 $\frac{5}{3}$ 7 7 $\frac{5}{3}$ 7

NOTE. At N. the seventh of the desired sept-chord is not contained in the intervals of the preceding chord, so there is no preparation for it. However, it is considered sufficient preparation if all the other intervals of the sept-chord,

except the seventh, are contained in the preceding chord and the seventh enters degree-wise from the octave. For example:



The harmonious qualities of a tone never rest in the tone itself, but in its relation to another tone.

For example: The tone *B* in *C* major, when used as the seventh of the sept-chord on the I. degree, has the qualities of a seventh, that is, it must descend one diatonic degree. If, however, before this tone *B* has been resolved, another tone enters as its fundamental, it must give up its qualities as a seventh before it can be combined with the new tone. For example:



In the first half of the measure *B* is the seventh, in the second half, before it could be resolved as seventh, it is the fundamental of the triad on the VII. degree in sixth position.

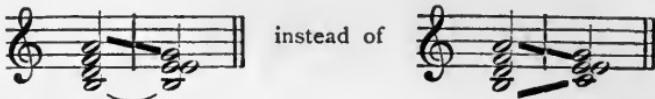
So every seventh, on receiving another fundamental tone, before it has been resolved, loses its character as seventh.

In the above and all similar examples

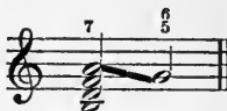
it is better not to think that the progression of the sept-chord concerned makes an exception to the rule and retains the seventh, but that the seventh has ceased to be the seventh

72 THE SEPT-CHORD ON THE II. DEGREE IN THE CADENCE.

after receiving a new fundamental tone. In the progression of the sept-chord on the VII. degree for example:



The leading tone does not go in the wrong direction, because, before it could be resolved, it became the fifth of the triad on the III. degree in $\frac{6}{4}$ position. Thus it has given up its leading tone qualities and is not obliged to ascend. In



B, the fundamental of the sept-chord on the VII. degree, becomes the third of a sept-chord on the V. degree by *A* going to *G*. Nevertheless it remains the leading tone and its resolution is only postponed.

THE SEPT-CHORD ON THE II. DEGREE IN THE CADENCE.

Since the sept-chord on the II. degree resolves into the triad or sept-chord which contains the tone of resolution for the seventh on the VII. degree of the scale, it is well suited to act as a forerunner of the dominant triad or sept-chord in a cadence. It is used as a substitute for the sub-dominant chord. (II., V., I.) For example in *C* major:

The cadence forms before mentioned can be broadened by using the sept-chord on the II. degree instead of the triad on the IV. or II. degree. (The seventh needs no preparation. See p. 64.)

By a repetition of the sub-dominant chord the triad on the II. degree can become the sept-chord on the same degree, but this cannot be reversed, the sept-chord be reduced to a triad. The triad on the IV. degree can be made the sept-chord on the II. degree by adding the fundamental tone of the triad on the II. degree. This cannot be reversed. For example:

etc. or etc. but
etc. not etc.

In the same way, (by repeating the sub-dominant) the triad on the IV. degree can be followed by the triad on the II. degree, but not the reverse, II. followed by IV. degree. For example:

etc. but not etc.

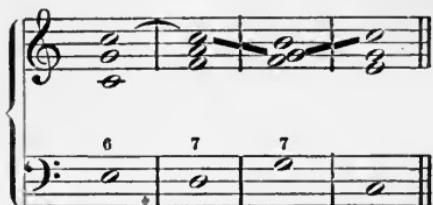
EXERCISE: Harmonize the given sopranos on page 60 using the sept-chord on the II. degree and its inversions.

The $\frac{6}{5}$ position can always be used as a substitute for the fundamental position of a sept-chord, and its 2 position, except in the close where the sixth position of its triad of resolution is not suitable.

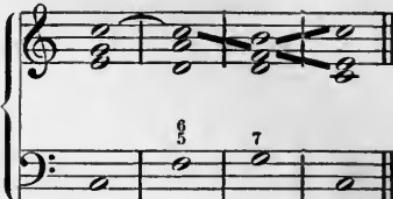
The musical notation consists of two staves. The top staff is in treble clef and shows a bass note followed by a measure with a bass note and a treble note. The bottom staff is in bass clef and shows a bass note followed by a measure with a bass note and a treble note.

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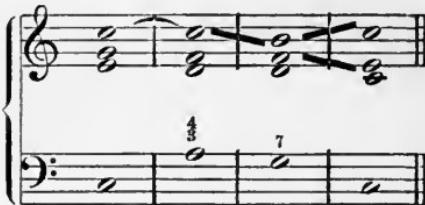
The three-four position, unless it belongs to the dominant sept-chord, produces an odd effect, as may be noticed by playing the following on the piano:



or

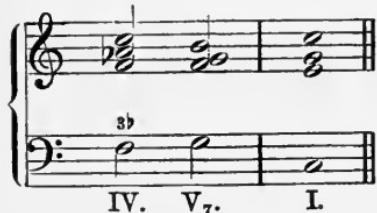


and in comparison

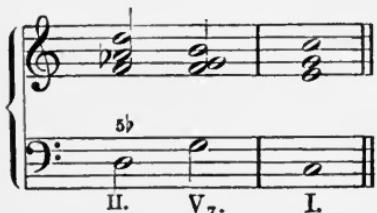
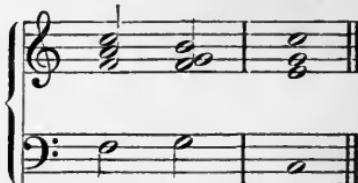


The free entering fifth in the Bass has the same effect as in a $\frac{6}{4}$ chord, as if the Bass had something particular to say—quasi solo.

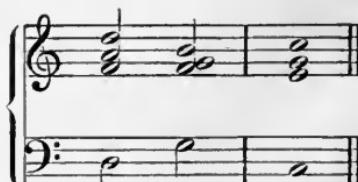
As a substitute for every sub-dominant in the major key (triads IV, II and sept-chords on II. degree) the sub-dominant of the minor key may be used. For example in C major:



instead of



instead of



instead of

The fundamental of the triad on the II. degree of the minor scale is often lowered when in 6 position in the cadence if it descends. This lowered II. degree of the scale is nothing else than a descending leading tone, left over from the Dorian race of Greeks.

Even this form of the sub-dominant, which really belongs to the minor key, can be used as a substitute in the major.

THE DOMINANT SEPT-CHORD AS A MEANS OF MODULATION.

By modulation one understands a change of key. Gradually it has become the custom to call only that change of key in which the character of the new key is well established a perfect modulation. A change of key which soon returns to the original without establishing a new key is an imperfect modulation.

Every imperfect modulation can be made a perfect modulation if a cadence (a typical closing formula) follows it in the key of the imperfect modulation. A perfect modulation must remain some time in the new key.

Imperfect modulation:

C: I. F: V₇. C: IV. II. I₄. V₇. L

Perfect modulation:

C: I. F: V₇. I. VI. II₇. V₇. I.

If, in order to warrant the logic of a harmonious progression, one must depend on the cadence connection of this progression, even when it is in the same key, how much more must one depend on this support in a progression which belongs to another key. One modulates on the principle of cadence connections, that is, the new key is connected with the key from which the modulation is made by means of a cadence in the new key; usually the two part authentic cadence.

The most natural connection between the key from which one modulates and the new key retains the common tones.

This immediate connection between the tonic triad of the key from which the modulation is made and the 2 part authentic cadence of the new key by means of common tones (even where the keys connected are not related) is good. It is true that the 2 part cadence does not remain any length of time in the new key, so it is best to add another 3 or 4 part cadence to give an at home feeling in the new key. On this account the dominant sept-chord is resolved to the triad on the VI. degree, or to the 6 position of the tonic triad, but not its fundamental position.

EXERCISE. Modulate from the tonic triad of *C* major to all the major keys whose two part authentic cadence can be reached by means of common tones (that is, to the major keys which have the tones *C*, *E* or *G* as fundamental, third, fifth or seventh in their dominant sept-chord) and add a three or four part cadence.

SOLUTION: 1. The tone *C*, used as the common tone for connection, is

- fundamental of the dominant sept-chord *C, E, G, B* in the key of *F* major,
- third of the dominant sept-chord *A*, *C, E*, *G* in *D* major,
- fifth " " " " " *F, A, C, E*, *B* in *B* major,
- seventh " " " " " *D, F*, *A, C*, *G* major.

Staff a) shows a treble clef, common time, and a bass clef. The top line consists of a dominant sept-chord (*C, E, G, B*) followed by a half note *C*. The bottom line shows a bass line starting on *C*, moving down to *B*, then back up to *C*.

C: I. F: V₇. L. VI. II₇. V₇. I.

Staff b) shows a treble clef, common time, and a bass clef. The top line consists of a dominant sept-chord (*A, C, E, G*) followed by a half note *C*. The bottom line shows a bass line starting on *C*, moving down to *B*, then back up to *C*.

C: I. D: V₇ VI. IV. I₄. V₇. L.

Staff c) shows a treble clef, common time, and a bass clef. The top line consists of a dominant sept-chord (*F, A, C, E*) followed by a half note *C*. The bottom line shows a bass line starting on *C*, moving down to *B*, then back up to *C*.

C: I. B: V₇. VI. IV. I₄. V₇. L.

*

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d)

C: I. G: V₇. I. VI. II₇. V. I.

2. The tone *E*, used as common tone for connection, is
- a) fundamental of the dom. sept-chord *E, G \sharp , B, D* in *A* major,
 - b) third " " " " *C, E, G, B \flat* " *F* major,
(See above 1a.)
 - c) fifth " " " " " *A, C \sharp , E, G* in *D* major,
 - d) seventh " " " " " *F \sharp , A \sharp , C \sharp , E* " *B* major.

a)

C: I. A: V₇. I. IV. I₄. V₇. I.

b)

C: I. F: V₇. I. VI. II₇. V₇. I.

c)

C: I. D: V₇. VI. IV. I₄. V₇. I.

3. The tone *G*, used as common tone for connection, is
 a) fundamental of the dom. sept-chord *G, B, D, F* in *C* major,
 b) third " " " " *E♭, G, B♭, D♭* " *A♭* major,
 c) fifth " " " " *C, E, G, B♭* " *F* major,
 d) seventh " " " " *A, C♯, E, G* " *D* major.

The modulations c) and d) are already made, with the help of their common tones *C* and *E*, principally *E*. The connection a) with the dominant sept-chord *G, B, D, F* does not make a modulation. It is better to remain in the original key. b)

EXERCISES: 1. After the above scheme modulate from the tonic triad of different keys to the key whose two part authentic cadence can be reached by means of common tones and add a three or four part cadence.

2. Modulate from the sub-dominant chord
 a) from the triad on the IV. degree } to the key whose
 b) " " " " " II. " } dominant sept-chord can be reached by means of common
 tones, then add a 3 or 4 part cadence. For example:

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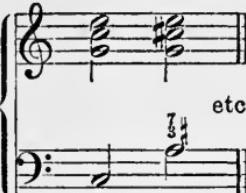
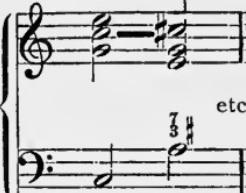
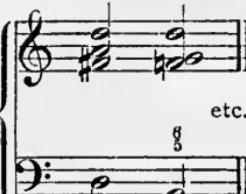
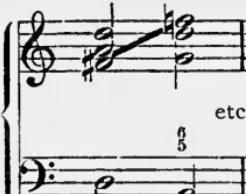
The image displays four staves of musical notation, each consisting of a treble clef staff above a bass clef staff. The notation is in common time (indicated by a 'C'). The first staff shows a progression from C major (I) through IV, then D major (IV) to V₇. The second staff shows a progression from C major (I) through IV, then B-flat major (IV) to V₇. The third staff shows a progression from C major (I) through IV, then G major (IV) to V₇. The fourth staff shows a progression from C major (I) through IV, then G major (IV) to V₇. Each staff includes Roman numerals below the staff indicating the key signature at each chord. Above the staff, specific chords are labeled with their names and Roman numerals. The first staff has labels: C: I., IV., D: V₇, I., VI., II₇, V₇, I. The second staff has labels: C: I., IV., B_b V₇, I., VI., II₇, V₇, I. The third staff has labels: C: I., IV., G: V₇, VI., II₇, V₇, I. The fourth staff has labels: C: I., IV., G: V₇, I., VI., II₇, V₇, I. The notation uses various accidentals (sharps, flats, naturals) and rests to indicate the harmonic flow and modulation between keys.

Do not fail to play these exercises on the piano.

If in course of a piece

- a) a chord-tone is followed by its chromatic alteration (as a chord-tone), or
- b) a chromatic alteration is followed by the original tone (as a chord tone),

they must come in the same voice, otherwise a harsh, unharmonious relation results called *Cross-relation*. (False relation.)

not {  etc. but { 
not {  etc. but { 

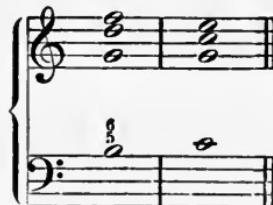
PART III.

ORNAMENTAL CHANGES IN THE CONNECTION OF CHORDS.

1. SUSPENSIONS.

A suspension is an ornamental delay in the connection of chords. It results from one of the voices in the preceding chord holding its tone, (providing its next tone is one degree above or below it,) before taking the next tone, instead of progressing to the next chord with the other voices.

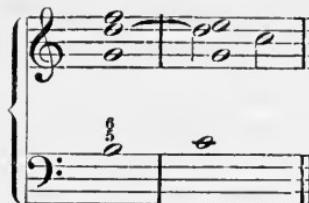
For example. — The connection of the $\frac{6}{5}$ chord on *B* with the triad on *C* can be made with all voices moving at the same time,



or with a suspension in the Soprano (the *F* of the preceding $\frac{6}{5}$ chord is delayed in taking the next tone *E*).



or with a suspension in the Alto (the D of the preceding $\frac{6}{5}$ chord is delayed in going to the next tone C).



A suspension can be used before the fundamental third fifth } of every triad or sept-chord either in fundamental position or their inversions.

A suspension in one voice does not form a new chord.

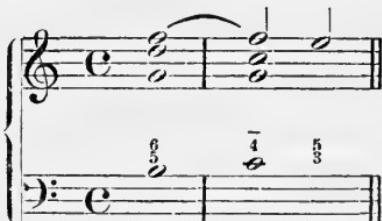
The distance of the suspended tone from the Bass tone is of secondary importance, since this tone has no harmonic relation to the chord. A false impression of harmonic relation has been given by indicating this unimportant distance just the same as the distance of the other tones (chord tones).

The marking



gives a false impression, as if $\frac{5}{4}$ represented a new chord. This way of marking has gone so far that one speaks of a four-five chord. (Richard Würst, Elementartheorie der Musik, Berlin, Bote und Bock, 1867).

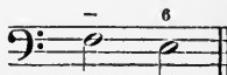
In comparison, the marking



leaves no doubt that the triad ($\frac{5}{3}$) on *C* is meant, and that in the preceding chord one voice (which is a fourth distant from the Bass tone *C*) forms a suspension above the third of the triad.

The last manner of marking is preferable, because it does away with a great number of figures (such as: $\frac{7}{3}, \frac{9}{6}, \frac{7}{4}, \frac{4}{3}, \frac{5}{4}, \frac{7}{4}$ etc.) which are only confusing.

The reason these figures are confusing is that they do not always have the same meaning. Thus: $\frac{7}{4}$ can mean a suspension over the third of a sept-chord just as well as a suspension over the sixth of a $\frac{6}{4}$ chord, while there is no doubt what $\frac{7}{4}$ or $\frac{7}{3}$ mean. The figures $\frac{5}{2}$ can indicate a suspension either over the 4 of a chord of the second, or over the Bass tone of a sixth chord, while $\frac{5}{4}$ or — 6 have but one meaning. The marking $\frac{6}{5}$ could also lead to the formation of a complete $\frac{6}{5}$ chord, where only the suspension over the fourth of a $\frac{6}{4}$ chord was meant. This is expressed more clearly by $\frac{6}{5} - 6$ than by $\frac{6}{5} \frac{6}{4}$. The suspension in the Bass is indicated:



This is so like the markings already given, that it is easily understood.

The following rules are given for suspensions:

i. A suspension must be prepared, that is, the suspension must be one of the intervals of the preceding chord.

but not

2. The suspended tone goes degree-wise up or down to the next tone.

In addition to these:

1. The suspension falls upon the accented part of the measure.
2. The preparation must be as long as the suspension.

3. The tone of resolution for a suspension cannot appear at the same time as the suspension in any voice but the Bass.

Thus:



The leading tone *B* in the dominant sept-chord *G, B, D, F* is obliged to give up its tone of resolution and descend, in order to avoid sounding the suspension *D* in the Soprano and its tone of resolution, *C*, at the same time.

EXERCISE*.—

A musical exercise for soprano, alto, tenor, and bass. The soprano part has figures (3) 6, 5 4 6, 6, 6, 6, 6, 6, 7 4, 4 7. The alto part has figures 6, 5, 6, 6, 6, 6, 6, 6, 6. The tenor part has figures 6, 5 4, 6, 6, 6, 6, 6, 6, 6. The bass part has figures 6, 5 4, 6, 6, 6, 6, 6, 6, 6.

* From the given figures, which are all familiar $\frac{4}{2}$, $\frac{5}{3}$, $\frac{8}{3}$, $\frac{6}{3}$, $\frac{6}{4}$, $\frac{7}{3}$, form the required chords. Compare this marking with the old figures for the same exercise.

A musical exercise for soprano, alto, tenor, and bass. The soprano part has figures (3) 6, 5 4 6, 6, 6, 6, 6, 6, 6, 6, 6. The alto part has figures 6, 5 3 6, 6, 6, 6, 6, 6, 6, 6, 6. The tenor part has figures 6, 5 3 6, 6, 6, 6, 6, 6, 6, 6, 6. The bass part has figures 6, 5 3 6, 6, 6, 6, 6, 6, 6, 6, 6.

SOLUTION: The triad on *C* is *C, E, G* — Soprano (3) *E*, Alto *C*, Tenor *G*.

The following sixth chord on *E* is the inversion of the preceding triad on *C* — *G* remains in the Tenor and *C* in the Alto. The Soprano in order to avoid *E*, which is the Bass tone of the sixth chord, goes to *C*.

A musical solution showing soprano, alto, tenor, and bass parts. The soprano part has a wavy line over the notes, indicating they are not to be sung. The alto part has figure (3) above the note. The tenor part has figure 6 above the note. The bass part has figure 6 above the note.

The following chord of the second on *F* is the inversion of the sept-chord (on *G*) *G, B, D, F*. Common tone? *G* — remains in the Tenor. The Soprano goes from *C* to *D*. The Alto would go from *C* to *B*, if (the figures $\frac{5}{2}$) the entrance of the tone a fourth from *F* were not delayed by a suspension. Therefore the Alto holds its preceding chord-tone (a fifth from *F* in this case) and goes to its chord-tone, *B*, later.

For the resolution of this dominant sept-chord in 2 position the seventh, *F*, descends to *E*, and the leading tone, *B*, goes up to *C*. The Tenor retains *G*, the Soprano goes from *D* to *C*.

For the resolution of this $\frac{6}{5}$ chord, inversion of the dominant sept-chord *G, B, D, F*, the seventh (*F*) descends to *E*. The leading tone (*B*) goes up to *C*. The Tenor retains *G*. The Alto holds its preceding tone *D* (a 9 distant from *C*) then goes to *C* over which the *D* was suspended.

The following $\frac{6}{4}$ chord on *G* is the inversion of the triad (on *C*) *C, E, G*.

Contrary motion. The Tenor goes from *A* to *G*, Alto from *D* to *C*. The Soprano goes to *E* after holding its preceding chord-tone *F* (a 7 distant from *G*) as a suspension above the *E*.

Musical score for two voices:

Top Voice (Treble Clef):
Measure 1: G major chord (G-B-D)
Measure 2: G major chord (G-B-D)

Bottom Voice (Bass Clef):
Measure 1: C major chord (C-E-G)
Measure 2: C major chord (C-E-G)

The following sept-chord on *G* is *G, B, D, F*. Common tone? *G* (doubled fundamental)—remains in the Tenor. The Soprano goes from *E* to *F*. The Alto goes to *B* after holding its preceding chord-tone *C* (a 4 distant from *G*).

or with
the fifth

A musical score for the first system of "The Star-Spangled Banner". The top staff uses a treble clef and consists of two measures. The first measure starts with a half note followed by a quarter note. The second measure starts with a half note followed by a quarter note. The bottom staff uses a bass clef and consists of two measures. The first measure starts with a half note followed by a quarter note. The second measure starts with a half note followed by a quarter note.

Complete solution.

A musical score for 'The Star-Spangled Banner'. The top staff is in treble clef, G major, common time, with a key signature of one sharp. It consists of a series of eighth-note chords: G major (G-B-D), E major (E-G-C), B major (B-D-F#), F major (F-A-C), C major (C-E-G), G major (G-B-D), D major (D-F#-A), and G major (G-B-D). The bottom staff is in bass clef, C major, common time, with a key signature of one sharp. It consists of eighth notes: G, B, D, F#, A, G, B, D.

A musical score for 'The Star-Spangled Banner' on two staves. The top staff is treble clef and the bottom is bass clef. Measures 9-15 are shown, starting with a measure ending in a double bar line. The lyrics 'O'er the land of the free' are written below the notes.

EXERCISES.

(8) $\frac{4}{3} \frac{5}{3}$ 7 5 $\frac{4}{3} \frac{5}{3}$ 2 - 6 5 7 $\frac{4}{3} \frac{5}{3}$

(3) 4 6 7 $\frac{4}{3} \frac{5}{3}$ 6 6 5 $\frac{4}{3} \frac{5}{3}$ 2 $\frac{7}{5} \frac{6}{5}$ 6 $\frac{6}{4} \frac{5}{4}$ $\frac{4}{3} \frac{5}{3}$

(5) 0 $\frac{4}{3} \frac{5}{3}$ $\frac{7}{5} \frac{6}{5}$ $\frac{5}{3} \frac{6}{5}$ 7 $\frac{9}{8}$

(8) 6 $\frac{7}{4} \frac{6}{3}$ 6 $\frac{7}{4} \frac{6}{3}$ $\frac{7}{5} \frac{6}{3}$ $\frac{4}{3} \frac{5}{3}$ $\frac{7}{3} \frac{6}{3}$ $\frac{6}{5} \frac{7}{4}$

(8) 6 $\frac{7}{3} \frac{6}{3}$ - 6 7 $\frac{7}{3} \frac{6}{3}$ $\frac{4}{3} \frac{5}{3}$ 5 7

(3) 6 $\frac{5}{3} \frac{6}{3}$ $\frac{4}{3} \frac{7}{3}$ 6 $\frac{4}{3} \frac{7}{3}$ 5 $\frac{2}{3} \frac{7}{3}$ $\frac{4}{3} \frac{7}{3}$

(8) 6 $\frac{7}{3} \frac{6}{3}$ $\frac{7}{4} \frac{5}{3}$ 6 $\frac{7}{3} \frac{6}{3}$ $\frac{5}{4} \frac{6}{3}$ 6 7 $\frac{4}{3} \frac{5}{3}$

(8) 6 $\frac{7}{3} \frac{6}{3}$ 6 $\frac{6}{5} \frac{5}{3}$ $\frac{5}{3} \frac{4}{3}$ $\frac{7}{3} \frac{6}{3}$ $\frac{7}{4} \frac{6}{3}$ $\frac{5}{4} \frac{6}{3}$

(8) 6 $\frac{4}{3} \frac{5}{3}$ $\frac{7}{5} \frac{6}{3}$ $\frac{4}{3} \frac{5}{3}$ $\frac{7}{4} \frac{6}{3}$ 6 6 $\frac{7}{4} \frac{6}{3}$ $\frac{4}{3} \frac{5}{3}$

(5) $\frac{9}{8}$ 7 $\frac{4}{3} \frac{7}{3}$ $\frac{4}{3} \frac{5}{3}$ 6 $\frac{7}{4} \frac{6}{3}$ $\frac{4}{3} \frac{5}{3}$

The suspension is treated in the same way whether only the Bass a), or several voices b) progress with its tone of resolution to an inversion of the chord intended (as at a), or to an entirely new chord (as at b).

a)

(8) $\overline{4} \left(\begin{smallmatrix} 6 \\ 3 \end{smallmatrix} \right)$ 7

b)

(8) $\overline{4} \left(\begin{smallmatrix} 5 \\ 3 \end{smallmatrix} \right)$ 7

One or more tones, whether chord-tones or not, can come between the suspension and its resolution.

instead of

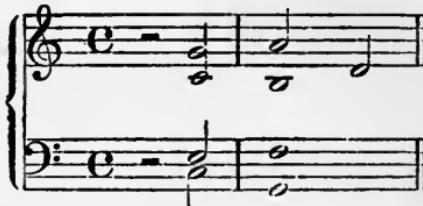
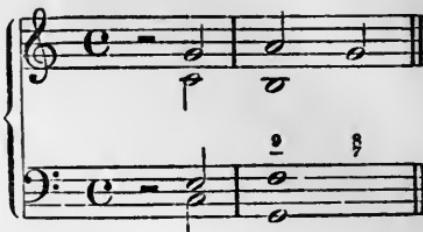
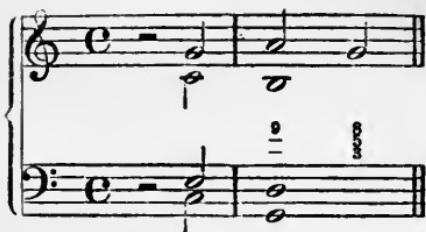
$\overline{4}$ 5

thus

$\overline{4} (3 2) \overline{5}$ or $\overline{4} (2) \overline{5}$

The ninth can enter free (without preparation) above the dominant chord (triad or sept-chord on the V. degree) and

descend degree-wise to the fundamental, or jump into another interval of the dominant chord.



A suspension makes a close connection between two chords following each other because—although the suspended tone has no harmonic relation to the second chord—it forms an artificial common tone.

The importance of common tones as a means of connection has already been emphasized.

One cannot proceed very far in the harmonic analysis of modern music if he tries to discover or construct some kind of new and complicated relation for bold chord progressions which have only a very distant harmonic relation, or else none at all. The bold, free handling of the chord progressions in modern music is based on the increased ability to consider the remotest key as logically connected by means of a single common tone, if it stands in a cadence.

These artificial common tones have made it possible to use

the suspension as a Means of Modulation.

Where the key from which the modulation is made has no common tone with the dominant sept-chord of the new key, a suitable connection can be made by holding one of the neighbouring tones of the dominant sept-chord as a suspension.

C: I. E: — V₇. I. IV. — V₇. I.

C: I. E: — V₇. I. VI. — V₇. I.

EXERCISES. 1. By using suspensions modulate to keys in which the dominant sept-chord has no common tone with the triad of the key from which the modulation is made.

2. Make the connection between the triad of the key one modulates from and the dominant sept-chord of the new key in the preceding modulations more effective by using suspensions.

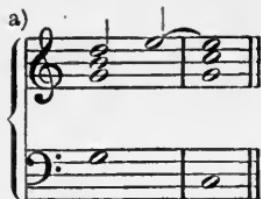
C: I. G: V₇.

by suspension of
G over F#.

C: I. G: — V₇.

2. ANTICIPATION.

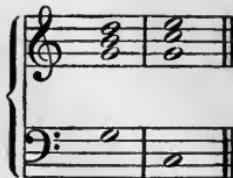
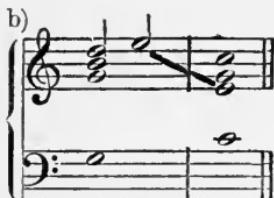
In anticipation one voice expects or prepares either its next chord-tone (as at a), or any one of the tones belonging to the following chord (as at b).



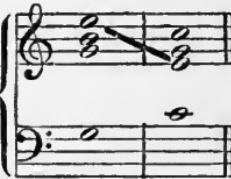
or



instead of

a) The Soprano anticipates its next tone *E*.

or

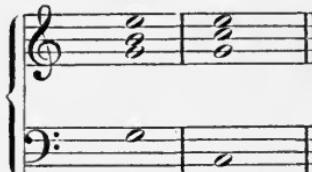


instead of



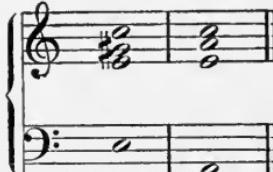
b) The Soprano anticipates the tone *E* of the next chord although it comes in the Tenor. There is no greater harmonic relation between the anticipation of a tone belonging to a following chord and the first chord, than there is in a suspension between the tone belonging to the preceding chord and the following chord.

That

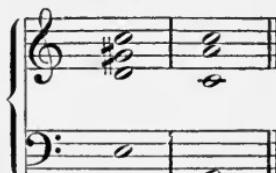


are the triads on the V.—I. degree with the anticipation of the *E* in the Soprano, and not the connection of the triads on the III.—I. degree is evident; for the progression III.—I. is never found in a cadence, but the V., I. is.

Thus the progression in the minor can be

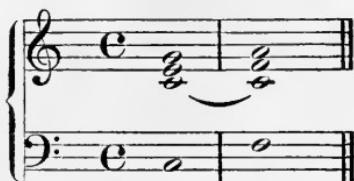


explained not as III. I.—with the VII. degree raised in the triad on the III. degree—but as dominant, tonic—with the *C* anticipated in the Soprano. Compare:

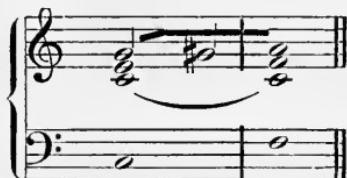


3. ALTERED CHORDS.

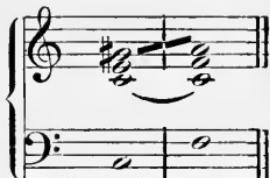
Altered chords are but ornamental changes in the fundamental form of chords (triads and sept-chords), in which one voice takes a chromatically altered tone in going to its next chord-tone (providing that tone is one diatonic degree above or below it). The connection between the tonic triad and the triad on the IV. degree may be made instead of,



by the *G* in the Soprano ascending chromatically to its diatonic neighbouring tone *A*,



or immediately changing to *G* sharp.



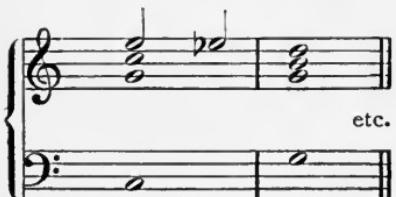
No new chord results from such a chromatically altered tone in one voice.

The name Altered Chord seems to contradict the above statement, but in reality it does not, since altered chords are chords which have been chromatically changed—then why should an altered tone be thought of as a chord?

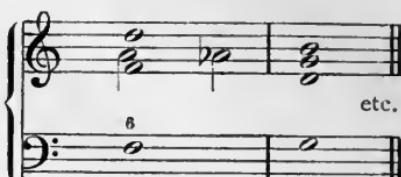
In the exercises already worked out try to introduce altered tones wherever a voice ascends a whole step, so that it will progress chromatically.

The following may be taken as a rule:

A chromatically raised tone always ascends and a chromatically lowered tone always descends. Therefore in writing chromatic alterations the important thing is not where the tone to be altered comes, but which way it progresses. It often happens that the altered tone seems to be a new part belonging to the chord with which it is struck.



etc.

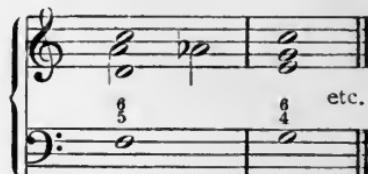


etc.



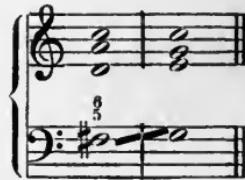
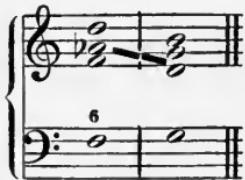
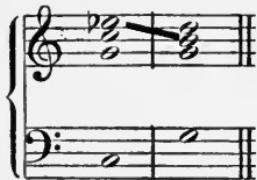
or

etc.



etc.

When the altered tone stands in place of the chord-tone instead of between two chord-tones it seems very much as if it belonged to the chord.



In many cases it is not so easy as it may seem from the above examples to determine whether it is an altered chord or simply an altered tone.

The substitution of the minor for the major sub-dominant may be explained as a chromatic alteration of the major sub-

dominant in which the ascending fifth (in the triad or sept-chord on the II. degree) or third (in the triad on the IV. degree) has been altered so that it descends—and that it agrees with the minor sub-dominant is simply accidental. See pp. 74, 75.

The image shows two staves of musical notation. The top staff is in treble clef and the bottom staff is in bass clef. The key signature is C major (no sharps or flats). The progression is as follows:

- IV: G major chord (G-B-D)
- V: A major chord (A-C#-E)
- I: C major chord (C-E-G)
- II: G major chord (G-B-D) with a sharp sign above the B note
- V: A major chord (A-C#-E)
- L: C major chord (C-E-G)

The bottom staff shows corresponding bass notes: C, F, G, D, G, C.

In *C* major

A single measure of musical notation in C major. The treble clef staff shows a G major chord (G-B-D) with a sharp sign above the B note. The bass clef staff shows a C note with a sharp sign below it, indicating a raised seventh degree. The measure ends with a repeat sign.

can be a modulation to *d* minor (with raised VII. degree) just as well as a chord in *C* major with an altered tone *C*.

Most theorists consider every combination with chromatically altered tones a modulation to another key just as soon as it agrees with a familiar fundamental form. Rimsky-Korsakoff, after speaking of a "false dominant sept-chord" and a "false diminished sept-chord on the II. degree", excludes several such accidental combinations.

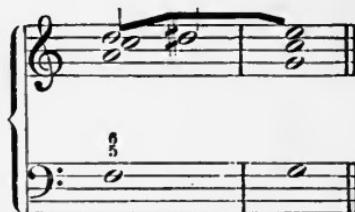
Two measures of musical notation in C major. The first measure shows a G major chord (G-B-D) with a sharp sign above the B note. The bass clef staff shows a C note with a sharp sign below it. The word "etc." is written below the staff. The second measure shows an A major chord (A-C#-E) with a sharp sign above the E note. The bass clef staff shows a G note with a sharp sign below it. The word "etc." is written below the staff.

Combinations (with one or more altered tones) which agree with a familiar fundamental form are called *relatively altered chords* in order to distinguish them from the combinations which do not show this conformity to a fundamental form.

Thus in the cadence of C major the two chords above mentioned are no doubt the sept-chords on the II. degree, in one of which the *F*, and in the other both *F* and *D*, are chromatically raised in going to the chord-tones (*G* and *E*)—therefore they are called *relatively altered chords*.

By considering altered tones as an ornament in one voice and not as belonging to the chord*, all classifications and names of such formations are superfluous.

That in



by changing the *D* to *D* sharp the sixth, *F* to *D*, becomes an augmented sixth (*F* to *D*[#]) is quite secondary—and no

*) A proof that an altered tone does not belong to the chord with which it is sounded is that a cross-relation (see p. 81) is at any time allowable with altered tones and produces no unpleasant effect, while in a modulation—from *C* to *G* major—the cross-relation is bad, but if *F* is changed to *F* sharp an altered tone in *C* major it sounds all right.

reason for giving it as a particular chord form called the "augmented six-chord".

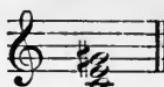
Wherever the II. degree descends chromatically—that is lowered a half tone—to the fundamental tone of the key, it may be considered a descending leading tone. See p. 75.

In analyzing notice particularly that

can neither be considered as belonging to a minor nor as relatively altered chords. By considering the VII. degree not raised as the leading tone common to the scale a contradiction is solved in this case which otherwise is quietly passed over.

Jadassohn says (*Lehrbuch der Harmonie*, Breitkopf & Härtel, Leipzig), that:

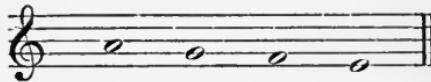
are chromatic changes of the triad on the first degree in *C* major, which are already familiar to us as fundamental chords. Therefore, with the exception of the last one, we do not consider them as altered chords.



This chord can just as well be the augmented triad on the III. degree in *a* minor as the triad on the first degree in *C* major with an altered fifth.

Either *C*, *E*, *G \sharp* (from the III. degree in *a* minor) is an already familiar original chord and consequently not to be thought of as an altered chord, or it is an altered chord which does not appear in *a* minor with the tones common to that scale. Why this formation should be an exception to all rules is still undecided.

Rimsky-Korsakoff makes use of two minor scales—a "natural minor scale" with the VII. not raised (*Praktisches Lehrbuch der Harmonie*, Belaieff, Leipzig), but he only recommends the use of the latter in harmonizing, "because it has the leading tone which is lacking in the natural minor scale". However, he very wisely treats only the original triad on the III. degree of the "natural" minor scale. In speaking of it he says, 1. "It is used like the triad on the III. degree in major for the harmonization of the descending upper tetrachord in the natural minor scale."



2. "It is used after the original triad on the I. or VI. degree and is followed by the sub-dominant triad."

1. 2.

Even in the last chapters he does not speak again of a triad *C*, *E*, *G \sharp* on the III. degree of *a* minor.

The triad on the III. degree in *a* minor is *C*, *E*, *G*. (See p. 16). Where this *G* ascends to *A* it can be altered to *G \sharp* just as well as the *G* in the triad on the I. degree of *C* major can be chromatically altered. This is true in the sept-chord on the III. degree (*C*, *E*, *G*, *B*) and that on the I. degree (*A*, *C*, *E*, *G*).

EXERCISES. Analyze the following example:

SOLUTION. 1. Measure. *C* major. 1. Triad on the I. degree. 2. The same. The fifth *G*, in the Tenor, is chromatically altered to *G*[#] in going to its next tone *A*.

Measure 2. Five-six chord on *F*—inversion of the sept-chord on the II. degree with the suspension *E* above *D* in the Soprano.

Measure 3. 1 Sept-chord on the II. degree. 2. Three-four chord on *D*—the inversion of the sept-chord on the V. degree. The fifth *D*, in the Bass, approaches the next tone *C* chromatically—changed to *D***b**. The *D***b** may also be considered as a descending leading tone.

Measure 4. Triad on the I. degree, the same in sixth position.

Measure 5. Sept-chord on the II. degree—borrowed from *c* minor. The second conception of it is that *A* in the Tenor is lowered a half-tone (relatively altered). There is a suspension *G* above *F* in the Soprano.

Measure 6. Triad on the I. degree in sixth position. The fifth *G* in the Tenor is raised a half-tone.

Measure 7. 1. Triad on the II. degree in sixth position 2. Triad on the V. degree; *C* going to *D* is relatively altered. *C*[#], or it is an imperfect modulation to *d* minor through the V. degree with *C*[#] as leading tone.

Measure 8. Triad on II. degree (or I. degree of *d* minor). Triad on I. degree in sixth position.

Measure 9. 1. Sept-chord on II. degree (in $\frac{6}{8}$ position) borrowed from *c* minor; or the fifth *A* may be considered as relatively altered to *Ab*. 2. Sept-chord on the V. degree.

Measure 10. Tonic triad.

Analyze the following examples in the same way.

The image displays six staves of musical notation for piano, arranged vertically. Each staff consists of a treble clef staff above a bass clef staff, separated by a brace. The first two staves begin in common time with a key signature of one sharp (F# major). The third staff begins in common time with a key signature of one flat (B-flat major). The fourth staff begins in common time with a key signature of one sharp (F# major). The fifth staff begins in common time with a key signature of one flat (B-flat major). The sixth staff begins in common time with a key signature of one sharp (F# major).

The image contains three staves of musical notation. The top staff shows a sequence of chords in G major: G, C, D, E, F#, G. The middle staff shows a progression from C major to E major. The bottom staff shows a progression from C major to E major, with arrows pointing to specific notes in the bass line that serve as common tones between chords.

Since the alteration of a tone brings the next tone chromatically nearer, it makes a closer connection between successive chords. An artificial common tone is often produced by introducing an altered tone in the second chord.

Thus in

by chromatically lowering the fifth ($C\sharp$) of the dominant sept-chord in *B* major ($F\sharp$, $A\sharp$, $C\sharp$, E) a new common tone, *C*, is made in the Alto with the preceding chord.

Therefore, *altered chords are well suited to be used as a means of modulation.*

EXERCISE.—1. In the examples already worked introduce altered tones so they will make a closer connection between successive chords.

2. Harmonize the following Sopranos using suspensions and altered chords.

The image shows six staves of musical notation for soprano voice. Each staff begins with a different key signature: the first with a common time C major, the second with G major, the third with C major, the fourth with F major, the fifth with C major, and the sixth with B-flat major. The notation includes various note heads (solid black, hollow white, and stems), rests, and a single fermata mark above the fourth staff.

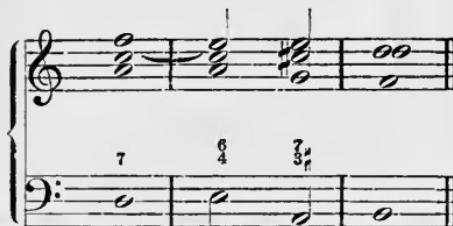
ENHARMONIC CHANGE.

The principle of retaining common tones in the same voice in connecting chords resulted from using a tone in another meaning when its relation to the fundamental tone was changed. In

This diagram illustrates enharmonic change. The top staff shows a bass clef followed by two chords: a C major chord (G-B-D) and a D major chord (D-F#-A). A brace connects these two chords. The bottom staff shows a bass clef followed by a single note, a B-flat, indicating the continuation of the D major chord.

by the fundamental *C* going to *G*, the fifth (*G*) of the triad *C, E, G* becomes the fundamental of the triad *G, B, D*.

This change in the relation to the fundamental is particularly important when a tone requiring resolution is concerned. In



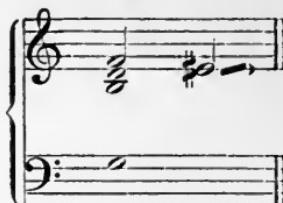
the seventh *C* gives up its qualities as seventh and becomes the third of the triad on *A* (in $\frac{4}{3}$ position), because its fundamental tone goes from *D* to *E*.

The change of meaning in a tone, on account of the different relation to its fundamental, is never more noticeable than when it goes hand in hand with a change of name.

The change of relation to the fundamental tone often demands a change in the name of the tone and vice versa. If in *G, B, D, F* the *D* goes to *C \sharp* an entirely unintelligible combination *G, B, C \sharp , F*, results, but as soon as the *F* is changed to *E \sharp* , the $\frac{4}{3}$ chord on *G* results, in which the *G* is lowered a half-tone from *G \sharp* (descending leading tone). This is the $\frac{4}{3}$ position of the dominant sept-chord *C \sharp , E \sharp , G \sharp , B* — with a lowered fifth.

The reverse—as soon as *F* is called *E \sharp , G, B, D, F* has another meaning. From the dominant sept-chord *G,*

B, D, F, a five-six chord on *G* with a raised *E* to *E \sharp* is formed.



The possibilities of using enharmonic changes (changes of name and meaning) to modulate to distant keys are numerous, but it would be useless to enumerate them. For their analytic meaning the rules already given (p. 94), "A chromatically raised tone always ascends and a chromatically lowered tone descends", are a safe guide; but only the good taste of the composer can decide as to their independent use.

EXERCISE.—In the exercises already worked introduce enharmonic changes, then tell which way each voice takes after the change.

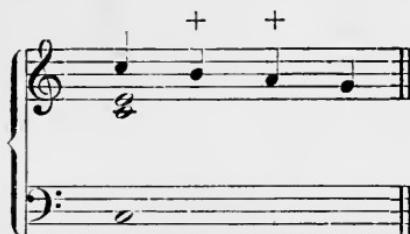
4. PASSING TONES AND CHANGING TONES.

a) *Passing Tones*

are the tones used in passing diatonically or chromatically from one tone of a chord to another. Their use in connecting chords, like that of suspensions and altered tones, is a melodic and rhythmic ornament, but they do not produce any new harmonic combinations. At



the Soprano, with the help of the diatonic passing tones, goes from *C* through *D* to *E* — from *E* through *F* to *G*. At



the Soprano goes, with the help of the diatonic passing tones, from *C* through *B* and *A* to *G*.

In writing chromatic passing tones the raised half-tone must ascend and the lowered half-tone must descend. (See p. 94.)

b) Changing Tones

are a diatonic or a chromatic degree above or below a chord-tone. They are struck with the chord and resolve to the chord-tone in place of which they stood. No new harmonic combination result from the use of changing tones. They are nothing but an ornamental change of a familiar harmonic form. In



the Soprano takes the chord-note, *C*, after using the changing note *D* in place of it.

The changing tone gives the impression of an unprepared, free entering suspension.

The substitution of a neighbouring tone for a chord

tone is only marked as a suspension if it is prepared (see p. 84), otherwise it is a changing tone.

A musical score in common time (indicated by 'C'). The top staff is treble clef, and the bottom staff is bass clef. The first measure shows a bass note 'C' (I⁶) followed by a suspended bass note 'B' (V₇). The second measure shows the bass note 'C' again (I). Below the staff, Roman numerals indicate harmonic progressions: I⁶, V₇, I.

is a suspension of *C* above *B*.

A musical score in common time (indicated by 'C'). The top staff is treble clef, and the bottom staff is bass clef. The first measure shows a bass note 'C' (II) followed by a suspended bass note 'B' (V₇). The second measure shows the bass note 'C' again (I). Below the staff, Roman numerals indicate harmonic progressions: II, V₇, I.

is a changing tone *C* for *B*,—not an unprepared suspension.

The figures are the same in both cases — only in one case the preparation (for the tone not belonging to the chord) is lacking.

5. ORGAN POINT.

By organ point one understands that the tonic or dominant is retained in the Bass while the other voices move independently through a succession of chords. Organ point is generally used at the close of a piece and this retained Bass tone could be considered as an anticipation of the closing tone (the tonic), or of the tone preparatory to the close (the dominant). What the other voices have to say over this anticipated close is usually like a short review of the contents of the whole piece, or a reminiscence of the principal themes.

There is no harmonic relation between the retained Bass tone and the upper voices, therefore it is not necessary to mark the distance of the upper voices from the retained

Bass tone, but from the next lowest voice which is figured and considered as a new Bass.

The organ point begins on the accented part of the measure.

EXERCISES.—

(8) 5 2 6 6 6 4 5 6 6 5 6 7

6 6 7 6 3 6 7 6 7 6 4 7 5 5 4 7 6 6 4



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